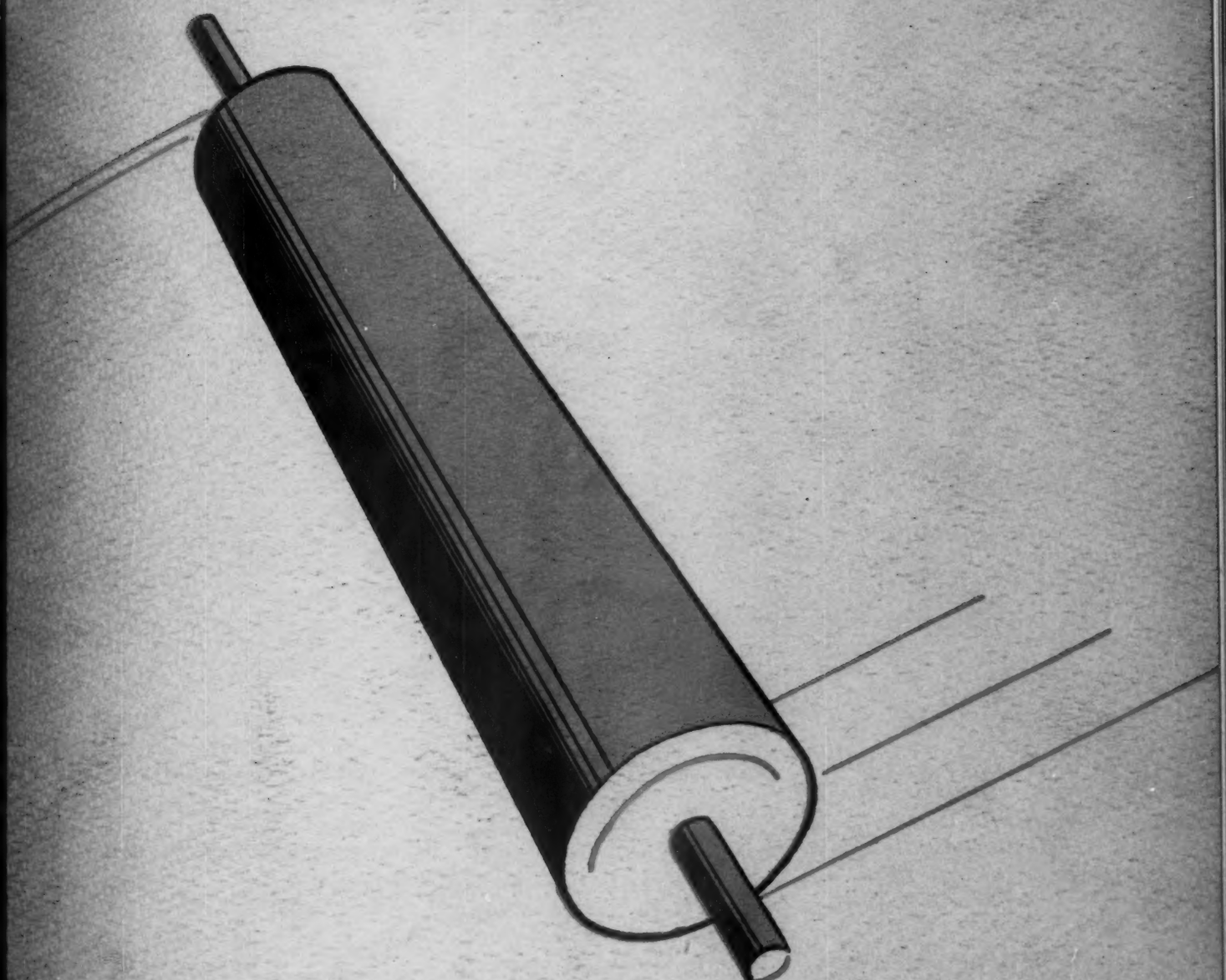
PRINTING EQUIPMENT ENGINEER



EQUIPMENT AND SUPPLIES

REFERENCE NUMBER

1937

A TECHNICAL PUBLICATION FOR MECHANICAL EXECUTIVES IN THE GRAPHIC PRODUCTION AND ARTS INDUSTRY

This Letter SPEAKS FOR ITSELF

Subject: GOSS HIGH SPEED ANTI-FRICTION PRESS

The Advertiser

FILED

ADELAIDE

August 24, 1936.

RECEIVED

SEP 23 1936

R.C. Corlett, Esq.,
Secretary,
Goss Printing Press Company,
Illinois,
CHICAGO.
U.S.A.

Dear Mr. Corlett,

Our new presses are running well, and we are delighted with them. I am sending you by this mail, a copy of our Centenary Issue which was printed on these presses on Saturday. The previous Saturday was our first effort on the new presses, the button being pushed by the Governor in the presence of about 70 of the leading citizens whom we entertained at supper before press time, which is 1.15 a.m.

Mr. Edwards has made a great job of the erection of the plant, which is working well and giving us a better printed paper than we have had for years. Of course, it is not running at speed yet, and for three months we shall have to arrange our sizes to get two deliveries. But after that, it seems clear that one delivery will meet our needs.

It will not be long, however, I should think, before we place an order with you for your English factory* for some more units, for we must have absolute security as our nett sale grows. It is now well over 97,000, and is keeping steadily upwards.

With warm personal regards.

Yours sincerely,

Lloyd Thomas

Managing Editor.

● What more need be said? Except perhaps to point out that this press was erected in Adelaide, South Australia, 10,000 miles from the factory by the publisher's own men and immediately produced satisfactory results. . . It's cases like this that recommend the Goss High Speed Anti-Friction Press to every publisher of a metropolitan daily. Begin your own investigation now. Write the Goss Research and Engineering Department for complete details.

* Publisher mentions placing order thru English factory because of prohibitive Australian tariff on American presses.

GOSS

THE GOSS PRINTING PRESS COMPANY, PILSEN STATION, CHICAGO, ILL.

NEW YORK: 220 EAST FORTY-SECOND STREET
SAN FRANCISCO: 707 CALL BUILDING
GOSS FOSTER, LTD., LONDON, ENGLAND

The Swing is to GOSS!

TABULATION for 1936

During the past twelve months, American publishers have purchased or installed new Goss Anti-Friction Presses as follows:

NEW YORK NEWS, New York City — 36 Heavy Duty High Speed Anti-Friction Units; 7 Pairs of Folders and 11 Goss Speedry Anti-Friction Gravure Units; 1 Pair of Folders.

CHICAGO TRIBUNE, Chicago — 38 Heavy Duty High Speed Anti-Friction Units; 8 Pairs of Folders.

INDIANAPOLIS STAR, Indianapolis — 9 Heavy Duty High Speed Anti-Friction Units; 3 Pairs of Folders.

YOUNGSTOWN VINDICATOR, Youngstown, Ohio — 8 Heavy Duty High Speed Anti-Friction Units; 2 Pairs of Folders.

SEATTLE TIMES, Seattle, Wash. — 8 Heavy Duty High Speed Anti-Friction Units; 1 Pair of Folders.

SOUTH BEND TRIBUNE, South Bend, Indiana — 5 High Speed Anti-Friction Units; 1 Pair of Folders.

GREATER BUFFALO PRESS, Buffalo — 10-cylinder Anti-Friction Color Press.

More and More Installations Prove the Advantages of . . . GOSS PRESSES

Check the mechanical tabulations for the current decade, and you will see that Goss presses are fast replacing out-moded equipment in the press rooms of many leading newspaper publishers. There's a reason. It's Goss engineering! Advanced principles of operation and construction make Goss presses a logical choice on any point by point comparison.

No other press offers as many outstanding features as the Goss High Speed Anti-Friction. For example: spiral and helical gears . . . quick plate lock-up . . . end adjusting ink fountains . . . Timken preloaded bearings . . . oil-tight housings with force-feed lubrication . . . 100% anti-friction construction — plus the exclusive advantages of Reverse Delivery, separate drive of inking arrangement, automatic tensions, all-ball-bearing inking rollers, center adjusting folding rollers, etc.

If you are checking production figures, estimating costs, comparing notes, be sure to see what Goss presses are doing under circumstances similar to yours. Write the Goss Research and Engineering Department for complete facts.

THE GOSS PRINTING PRESS COMPANY • PILSEN STATION • CHICAGO

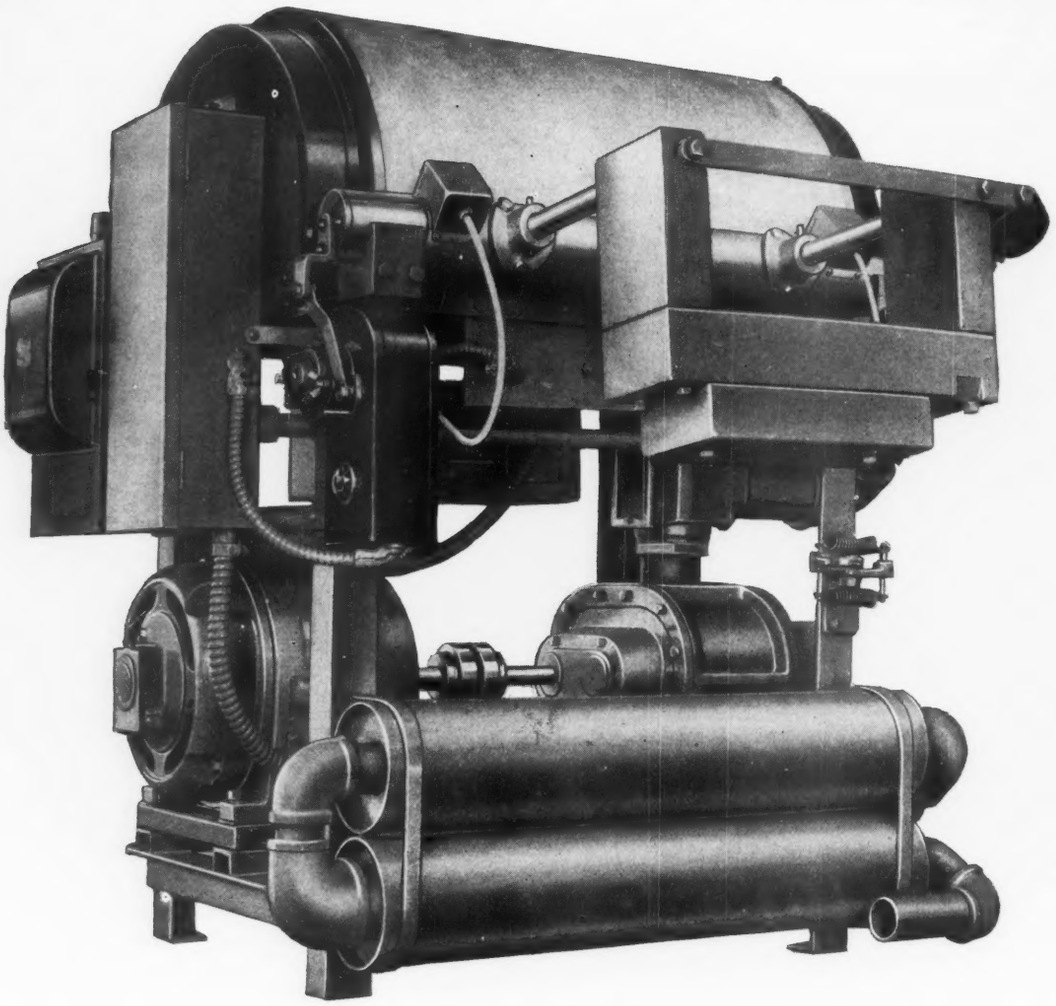
NEW YORK: 220 EAST FORTY-SECOND STREET

SAN FRANCISCO: 707 CALL BUILDING

GOSS FOSTER, LTD., LONDON, ENGLAND

GOSS

ARE YOU AN EXPLORER?



One Hundred and Two Newspapers explored the mechanical field for a **Better Way** to scorch dry-mats. **A Better Way** was discovered with **The Stahi Autoformer,** and the explorer's ordered **One Hundred and Thirty-Three Autoformers** — enjoying speed and economy in production — plus **Uniform Casting and Printing Levels.**

STAHI NEWSPAPER SUPPLY COMPANY, INC.

1020 CROCKER STREET
LOS ANGELES, CALIF.

538 So. CLARK ST.
CHICAGO, ILLINOIS

417 OREGONIAN BLDG.
PORTLAND, OREGON

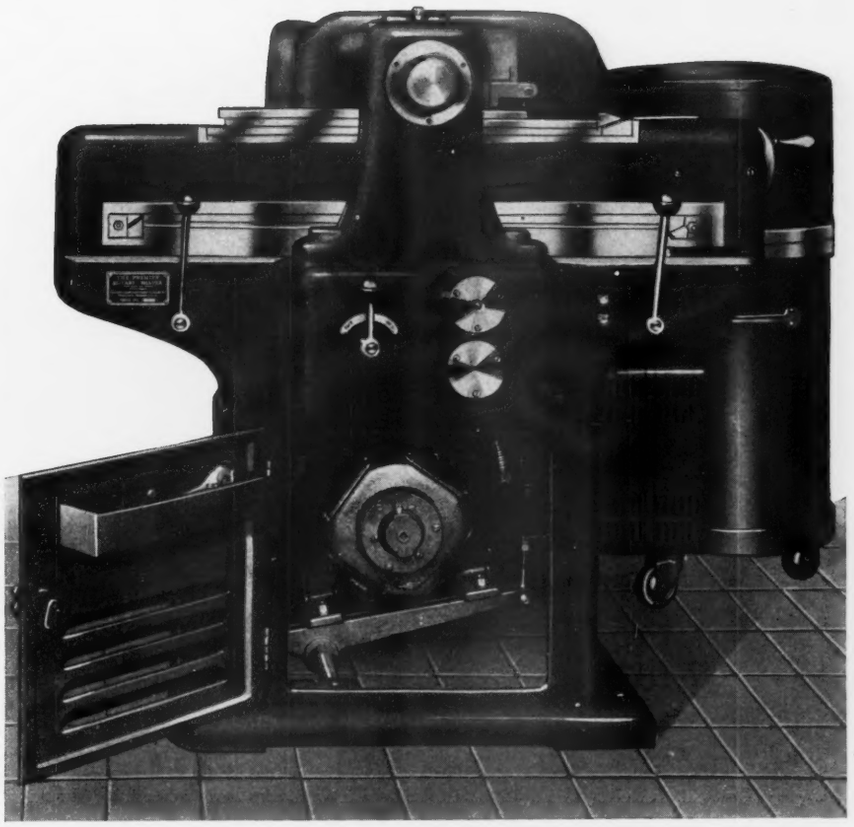
AGENCIES:

GOSS PRINTING PRESS COMPANY, Chicago, New York, San Francisco
CERTIFIED DRY MAT CORPORATION, 342 Madison Avenue, New York
DUPLEX PRINTING PRESS COMPANY, Battle Creek, Michigan
WOOD FLONG CORPORATION, Hoosick Falls, New York
BURGESS CELLULOSE COMPANY, Freeport, Illinois
R. HOE & COMPANY, New York, Boston, Chicago, San Francisco
WOOD NEWSPAPER MACHINERY CORPORATION, New York, N. Y.

Foreign Agencies:

GOSS PRINTING PRESS COMPANY of London, England
A. M. CARNEIRO & COMPANY, New York, N. Y.
TORONTO TYPE FOUNDRY COMPANY, Ltd., Toronto, Montreal, Winnipeg, Canada

ARE YOU PLOWING OR MILLING?



U. S. and Foreign Patents applied for

If you do not employ a rotary flat shaver — you are "Plowing" the metal off your cuts, and the "Plowing" system does not lend itself to the new order of more accurate gauges and printing levels, required for today's Quality Printing.

The Premier Rotary Shaver upsets all the accepted and long-established laws of shaving stereotypes and electrotypes. **It's a New Conception** of milling cuts to **accurate printing levels,** maintaining close tolerance on thickness. A vast improvement in **productive efficiency.**

Many parts of the finest machinery manufactured in America are produced on milling machines — **there is a reason for this** — the milling process is effective in both speed of production and accuracy of gauge. **The Premier** brings to you this tried and tested milling machine for your soft metal cuts. You too can enjoy **speed of production with accuracy of gauge.**

STAHI NEWSPAPER SUPPLY COMPANY, INC.

1020 CROCKER STREET
LOS ANGELES, CALIF.

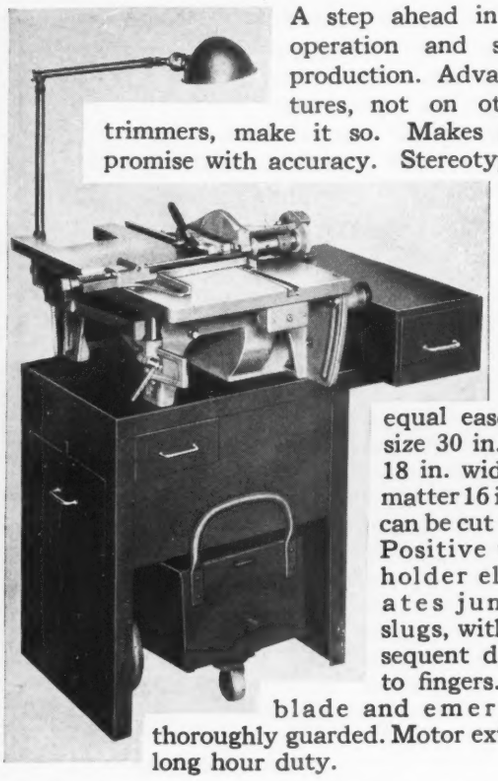
538 So. CLARK ST.
CHICAGO, ILLINOIS

417 OREGONIAN BLDG.
PORTLAND, OREGON

Efficient COMPOSING ROOM Equipment

TOOLS THAT CAN BE USED EVERY DAY ECONOMICALLY

No. 3 C&G Cabinet Model Saw Trimmer

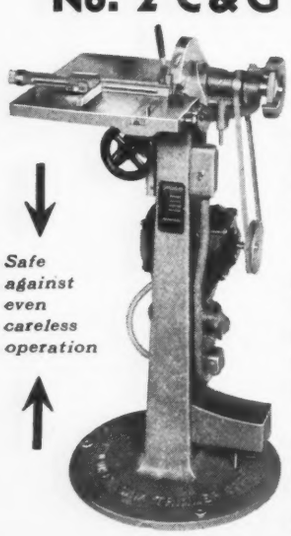


A step ahead in ease of operation and speed of production. Advanced features, not on other saw trimmers, make it so. Makes no compromise with accuracy. Stereotype plates or slugs cut with equal ease. Table size 30 in. long by 18 in. wide. Plate matter 16 in. square can be cut to gauge. Positive workholder eliminates jumping slugs, with consequent danger to fingers. Saw blade and emery wheel thoroughly guarded. Motor extra large; long hour duty.

$390.00 standard equipped

Attachments: Universal saw blade, saw grinder, trimmer grinder, low slug unit, line-up gauge, 150-pica extension gauge, metal truck.

No. 2 C&G Saw Trimmer



Safe against even careless operation

The acme of saw trimmer value. Fast because efficient. Adjustable point gauge assures extreme accuracy. Positive acting vise holds work securely until released.

Table elevates above saw for undercutting Table size, 23 x 20½ in., 60-pica gauge, sub-table, extension table, miter vise and miter gauge.

Attachments: Type finishing attachment, low slug unit, 150-pica gauge, Universal saw blade, grinding attachment for Universal saw blade, trimmer knife grinder.

$250.00 Standard Equipped

C & G

WRITE FOR CATALOG

C & G

C & G Router, Jigsaw and Type High Machine

Eliminates the necessity of sending out cuts for changes

A double purpose machine. Two men can work at one time doing two separate jobs.

Planes cuts to exact type-high, routs high spots, drills, mortises inside and out, cuts unusual shapes, circles and ovals. Changing key numbers becomes a simple as well as easy operation.

Trade plants, newspapers, engravers, electrotypers, commercial and private plants prefer this machine, due to its simplicity of operation and the wide range of work it does well.

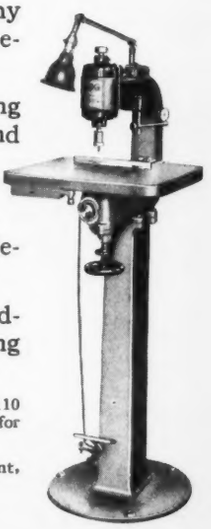
Equipped with substantial, adjustable lighting fixture, which assures sufficient light for all work. There are no belts to change.

Specifications: Router end of machine, ¼ h. p., 14,000 r. p. m., Universal motor, 110 or 220 volts. Jigsaw end of machine, ¼ h. p., 110 or 220 volts, D. C. or A. C., 60 cycle, 1 phase; 10-foot cord and plug if wired for 110 volts.

Attachments: Circle cutting attachment, Ellipse cutting attachment.

$420.00 standard equipped

C & G Type High and Router



A compact machine with many uses where jigsawing is not required. Anyone can operate.

Planes cuts to exact printing height, routs high spots, and drills. Tint blocks, circles, ovals and unusual shapes can be quickly made. Doing this mechanically saves time and delay in the composing room.

Equipped with substantial, adjustable lighting fixture, assuring a volume of light for all work.

Specifications: ¼ h. p. Universal motor, 110 or 220 volts, 10-foot cord and plug if wired for 110 volts.

Attachments: Circle cutting attachment, Ellipse cutting attachment.

$290.00 standard equipped

Precision Built— Function the Same

Milwaukee Saw Trimmer Corp.
612 E. Clybourn St., Milwaukee, Wis.

Leading Dealers Sell These Tools

LUDLOW PROGRESS

Among the larger equipments for display composition installed during September by new users in the metropolitan newspaper field, are those purchased by:

Boston Herald Traveler

Louisville Courier-Journal

Many other important newspapers that have enjoyed for years the benefits of all-slug composition, are replacing Ludlows which have seen hard service with up-to-date Ludlow equipment.

Ludlow Typograph Company

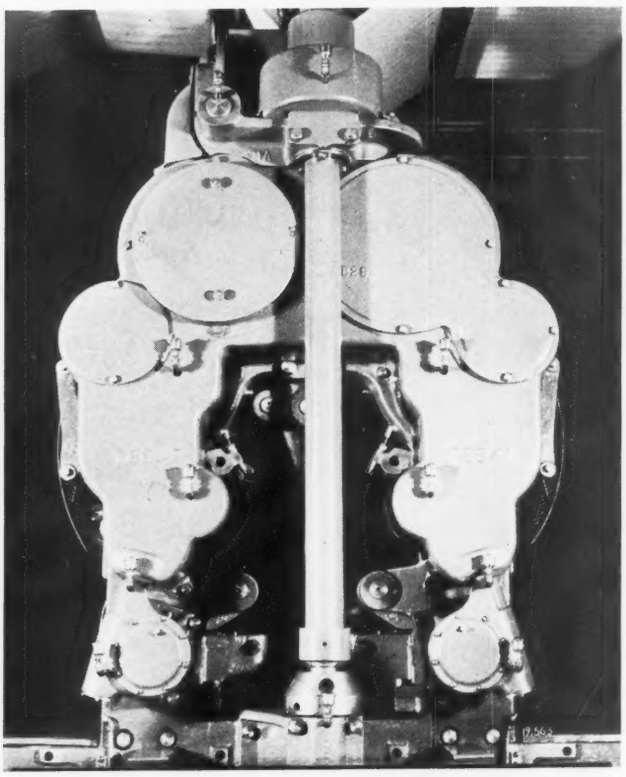
2032 Clybourn Avenue + + + Chicago, Illinois

LUDLOW PROGRESS

ONLY ONE "BEST" IN EVERYTHING

DUPLEX

The Unitubular is the press being considered by the high speed daily field, with circulations up to 40-50 thousand; and for these reasons: It is a high speed press, of heavy duty arched unit design, equipped with anti-friction bearings. Only one plate to cast for each page to give full running speed. And only one plate to register for each page—think what this means in R.O.P. color work. Its color possibilities are unlimited.



DRIVE SIDE OF A UNITUBULAR UNIT

From all indications business is definitely improving, which means larger papers, more circulation, more advertising—more business.

With this condition prevailing, publishers who look to the future are considering press changes. Duplex Engineers are equipped to serve these needs. Constant experimentation and research have kept Duplex presses abreast of the times and parallel with publishers' requirements.

When your plant requires additional equipment Duplex will gladly give you the benefit of its experience, acquired over a period of more than fifty years in the development and manufacture of newspaper presses.

DUPLEX PRESSES

MODEL A

MODEL E

"TUBULAR"

"UNITUBULAR"

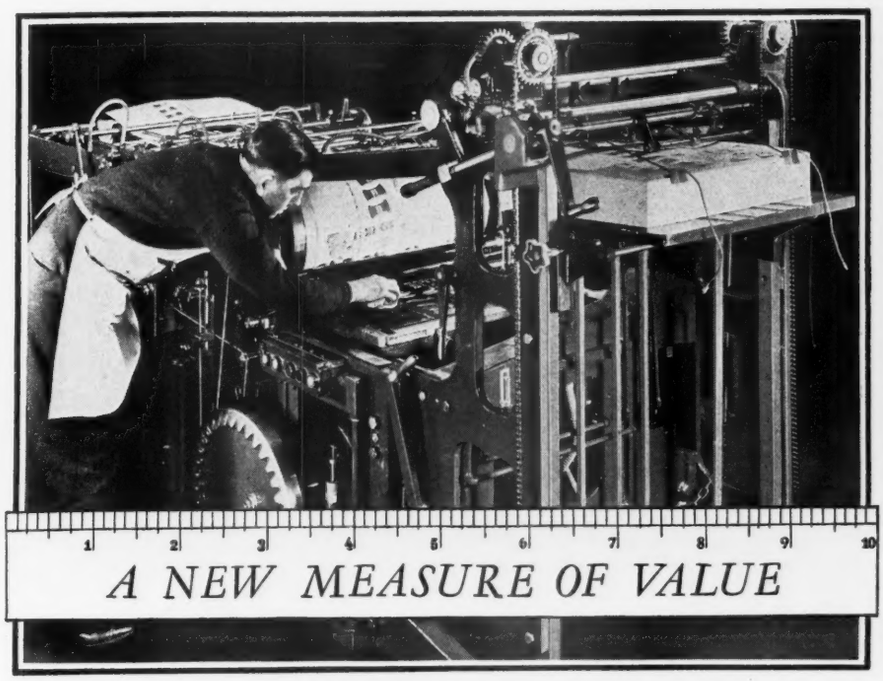
SUPER DUTY PRESS
(Using Semi-Cylindrical Plates)

STEREOTYPE MACHINERY

DUPLEX PRINTING PRESS CO.

BATTLE CREEK, MICH.

EMBODIED IN THE DESIGN AND CONSTRUCTION OF THE NEW MILLER SIMPLEX AUTOMATIC IS A PERFORMANCE VALUE HERETOFORE UNKNOWN IN THE PRINTING INDUSTRY



THE NEW MILLER SIMPLEX AUTOMATIC OFFERS YOU: . . . *(1) Unyielding Construction* . . . *(2) Full Steel, Patented Harmonic Bed Motion* . . . *(3) Complete Access to Bed and Cylinder* . . . *(4) High Speed—4500 Unhurried Impressions* . . . *(5) Simple, Positive Feeder* . . . *(6) Patented Slow-down Delivery* . . . *(7) Miller Multiple Trip* . . . *(8) Uniform Inking at All Speeds* . . . *(9) Automatic Oiling* . . . *(10) Tachometer and Totalizer* . . . press, feeder and delivery one integral unit with maximum profit possibilities.

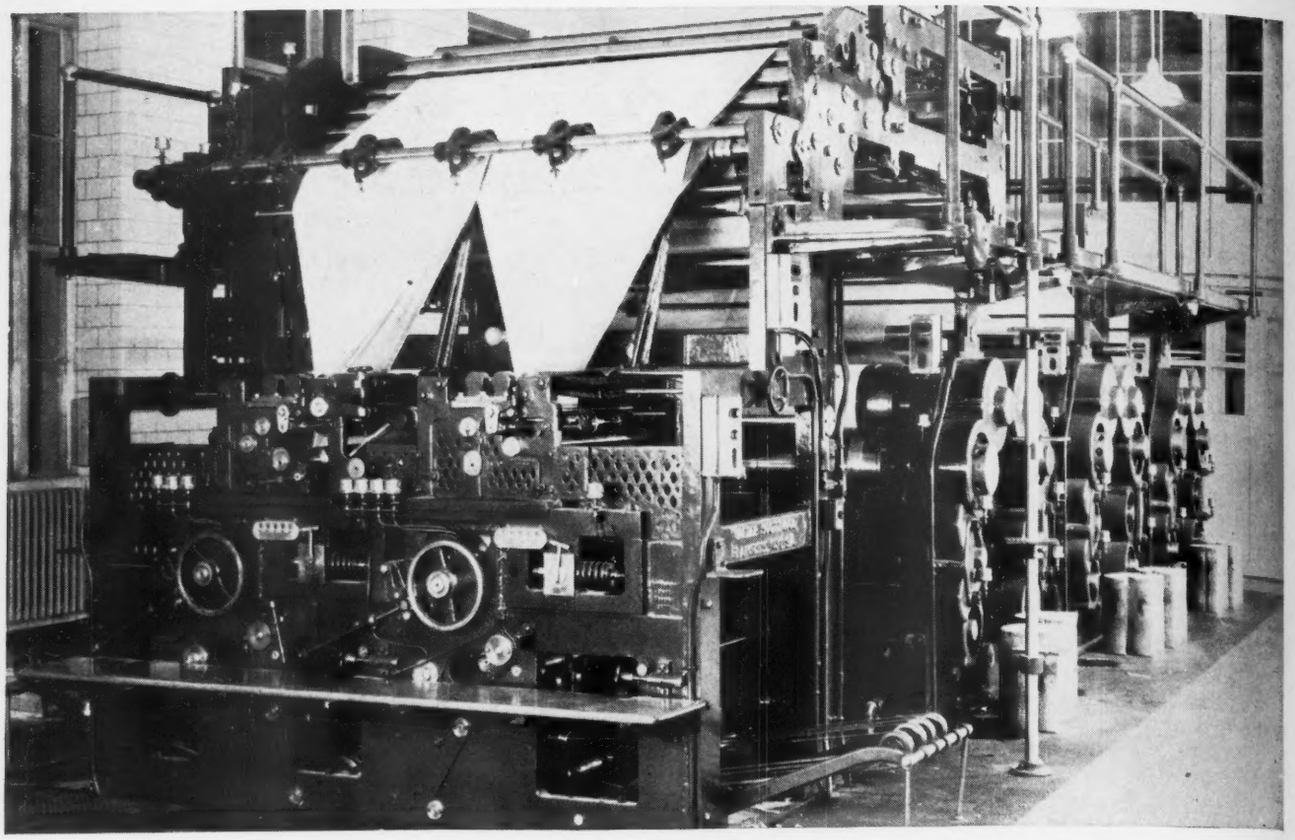
THIS unprecedented array of features is impressive EVIDENCE of the performance possibilities of the New Miller Simplex Automatic. PROOF of that performance may be had only through observing the press in operation and by checking results obtained. We will welcome the opportunity to present the proof. You are invited to write for descriptive catalog.

miller

MILLER PRINTING MACHINERY CO.

PITTSBURGH, PENNSYLVANIA

20 x 26 Simplex . . . . . 4500 per hour	13 x 20 High Speed . . . . . 5000 per hour
27 x 40 Major . . . . . 3600 per hour	11 x 17 Master Speed . . . . . 3200 per hour
27 x 41 Two-color . . . . . 3000 per hour (6000 imp.)	Heavy Duty, Universal and Bench Saw-Trimmers



"An old family custom." This new Scott Sextuple Press at the Ann Arbor Daily News is equipped with Goodrich Rollers as are the presses of six other Booth Newspapers in Michigan.

GOODRICH PRINTERS' ROLLERS SCORE AGAIN

Another Ann Arbor institution. Ferry Field—home of the University of Michigan Wolverines.

ANOTHER victory for better printing! Goodrich Printers' Rollers are used on the Scott Sextuple Press recently installed in the modern new plant of the Ann Arbor Daily News. This is but one of the seven Booth Newspapers in Michigan that go to press on Goodrich rubber rollers. The Saginaw News, Muskegon Chronicle, Kalamazoo Gazette, Jackson Citizen Patriot and Flint Journal all use them and they have also been specified for the new Scott presses to be installed at the Grand Rapids Press.

Goodrich Rollers are triple-play performers. They don't call time out for washup and resetting. Temperature changes have no effect on them. After withstanding many years of wear they can be reground for further service.

The score is always in your favor when Goodrich Rollers are included in the pressroom lineup. The lower costs and improved printing resulting from their use have made them the All-American choice of newspapers from coast-to-coast.

For prices, information and list of nearby users, where you can check the performance of these rollers personally, write Niles and Nelson, Inc., New York.

Modern new plant of the Ann Arbor Daily News, Ann Arbor, Michigan.

NILES & NELSON, INC., EXCLUSIVE DISTRIBUTORS
75 West Street, New York · 400 West Madison Street, Chicago, Ill.

Goodrich *Printers'* Rollers

Completely meeting the exacting printing requirements of today

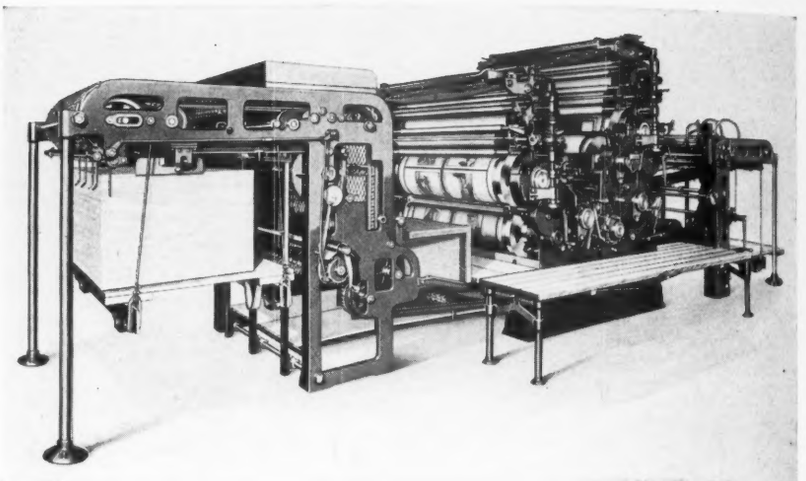
Howard Flint Ink Company

DETROIT • CHICAGO • DENVER • INDIANAPOLIS • HOUSTON • NEW ORLEANS

ELECTRICAL EQUIPMENT

for

All Types of PRESSES



CLINE-WESTINGHOUSE Offers the Standard of Electrical Equipment *plus* SPECIALIZED SERVICE TO THE PRINTING TRADE

• LEADING printers specify CLINE motor and control equipment. We furnish equipment to operate any make of machine used by the Printing and Allied trades, from the smallest stitcher to the largest newspaper press. To insure getting high grade standard motor and control equipment, specify "Cline-Westinghouse" in your machine contracts.

In ordering CLINE equipment you receive Motors, Controllers and Push Button Stations all made and tested by one Company, thus placing the printer in position to standardize his motor and control equipment. This will simplify the care and maintenance and assure the most efficient and reliable operation at low cost.

Safety is the noteworthy feature of CLINE equipment. Your operators are absolutely protected from electrical accidents that in poorly designed apparatus might mean the loss of life or serious injury. Safety features are incorporated in the construction of all of our apparatus.

CLINE ELECTRIC MFG. CO.

Main Office: 211 W. Wacker Drive, Chicago, Ill.

Western Office:
Crocker First Nat'l Bank Bldg.
SAN FRANCISCO, CAL.

CLINE SYSTEM — CLINE ELECTRIC MFG. CO. CHICAGO — QUALITY NAME SERVICE FAME — CLINE WESTINGHOUSE

Eastern Office:
220 East 42nd Street
NEW YORK CITY

Specify "CLINE" . . . . .

PRESS DRIVES and CONTROLS

FOR ALTERNATING OR DIRECT CURRENT

REELS (Quick Acting Chucks and Margin Control)

For Any Size Paper Roll

WEB TENSIONS (The Only Tension Adjustable from Press Unit)

For Automatic Control of Paper Tension

HIGH SPEED PASTERS

(DO NOT CHANGE TENSION VALUE - LOW FIRST COST)

For Continuous High Speed Operation

Safe • *Simple* • *Reliable*

PLANTS WITH RECORD OF HIGHEST SPEED AND LARGEST EDITIONS USE CLINE EQUIPMENT

The Cline System Includes . . .

Unit Press Drive and Control
Double Motor Drive and Control
Magazine Type Single Motor Control
Special Color Press Control
Stereotype Motor Equipment
Cline Reels & Automatic Electric Tension
Cline High Speed Pasters
Paper Roll Conveyors
Plate Conveyors and Droppers
Typesetting Machine Drives

CLINE ELECTRIC MFG. CO.

Main Office: 211 W. Wacker Drive, Chicago, Ill.

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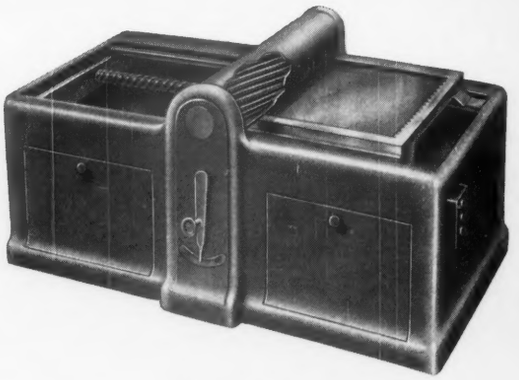
SAN FRANCISCO, CAL.

CLINE ELECTRIC MFG. CO. CHICAGO — CLINE SYSTEM — QUALITY NAME SERVICE FAME — CLINE WESTINGHOUSE

Eastern Office:
220 East 42nd Street
NEW YORK CITY

DROSS SIFTER

The newest item in the Monomelt line of metal saving devices. Scores of newspapers from coast to coast have reduced their dross loss from 20 to 50% with the Monomelt Dross Sifter. Fits any standard dross drum. Can be installed in 2 minutes. Practical, highly efficient and very simple to operate. Price $25.00. Shipping weight 40 lbs.

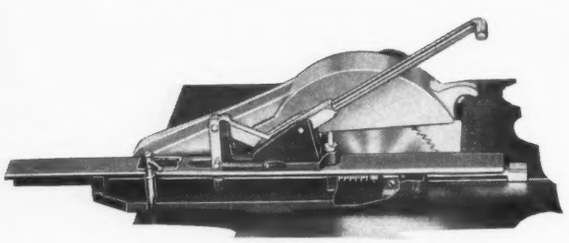


PLANE-O-PLATE

The first bench model plate shaver ever made to fit the needs and price limitations of smaller city daily newspapers and commercial printing plants. Uses a high speed rotary cutter. Handles stereotypes, electrotypes, half-tones, stereotype and wood base in any gauge from .100" to .930" or .012" above type high, with absolute accuracy and speed. Two bed sizes: 9" x 12" and 12" x 15".

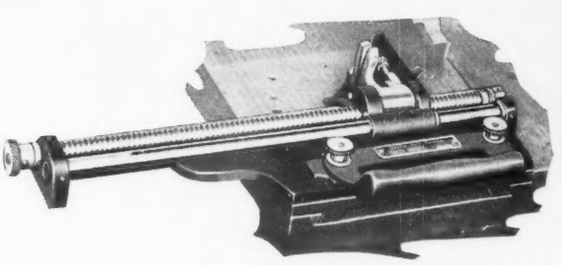
— *Ask Yourself These Questions* —

How much dross do you ship to your metal company? How much freight do you pay on full and empty drums? How much new metal do you buy to replace dross? How much toning metal? How much fuel and labor do you use for remelting? Answers to these few questions will indicate why more and more printing plants are installing the MONOMELT SYSTEM. We will be glad to go into details without obligation.



SURE-GRIP WORK HOLDER

Holds all classes of work absolutely true. Allows cutting down to one pica. Eliminates "fanning" of slugs. Slight pressure on the lever holds slugs in a vise, no matter whether a two-point rule or handful of type. No guesswork. No screws or ratchets to wear out and replace. Safe, sure, true to its name. For MILLER saws. $35.00.



RAPID SAW SWIVEL GAUGE

The best gauge ever conceived for the MILLER Saw. Quickly applied, no fitting necessary. Model shown takes in measures from 6 pts. to 72 ems instantly. Has micrometer adjustment to fractions of points. Price $35.00. Also made with extension gauge, taking in measures up to 133 ems. Price $50.00. Can be applied to other saws by using special fittings.

CURLE MATRIX ANVIL

If you want to reduce "mat" expense, furnish your machinist with a Curle Matrix Anvil and Tool Gauge Assembly. When he has reconditioned 325 "mats," the equipment is paid for. Price $32.50.

The Monomelt Company, Inc.

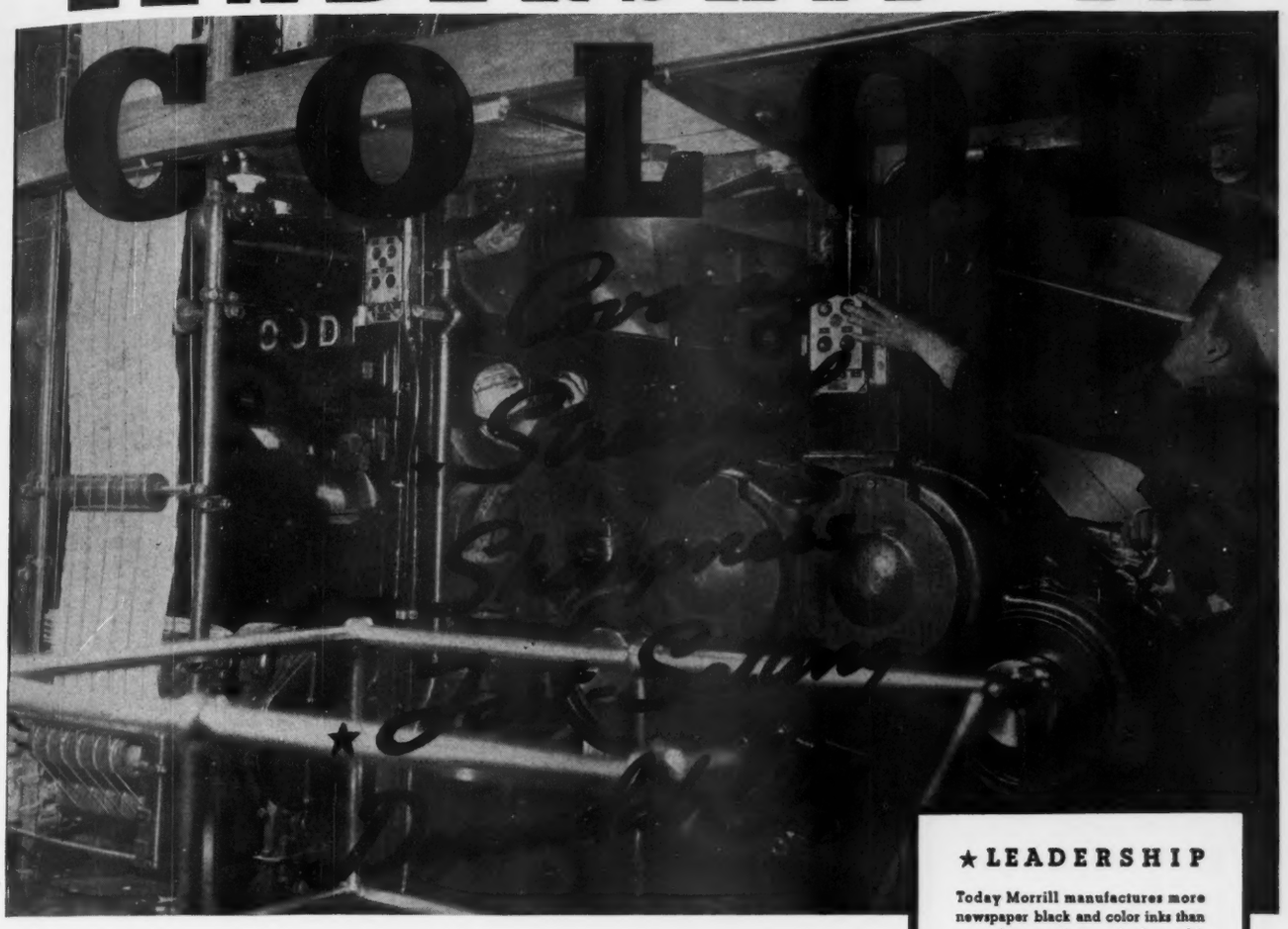
MANUFACTURERS

1611-15 Polk Street N. E.

MINNEAPOLIS, MINN.

PRICES F. O. B. MINNEAPOLIS, MINNESOTA

LEADERSHIP IN COLOR



Delivering clean, sharp reproduction in clear, vivid colors, day in and day out—Morrill News Color Inks play a vital part in the upsurge of newspaper color comic and magazine advertising throughout America. You can depend on Morrill Inks for all five essentials of fine newspaper color-printing—coverage, strength, sharpness, fast-setting, and trouble-free performance. You can depend on Morrill standards for the finest of materials, the best of workmanship. You can depend on Morrill reputation for traditions of quality going back 95 years. And you can depend on Morrill service for intelligent cooperation in helping you turn out a cleaner, snappier, more attractively printed newspaper.

★LEADERSHIP

Today Morrill manufactures more newspaper black and color inks than any other manufacturer in the world. Publishers prefer Morrill News Colors for these vital reasons:

COVERAGE—Smoother coverage of large type faces and solid color areas

STRENGTH—Greater intensity of color strength, insuring maximum attention value

REPRODUCTION—Cleaner, sharper reproduction, aiding correct register

FASTER-SETTING—To minimize the danger of smudging at high press speeds

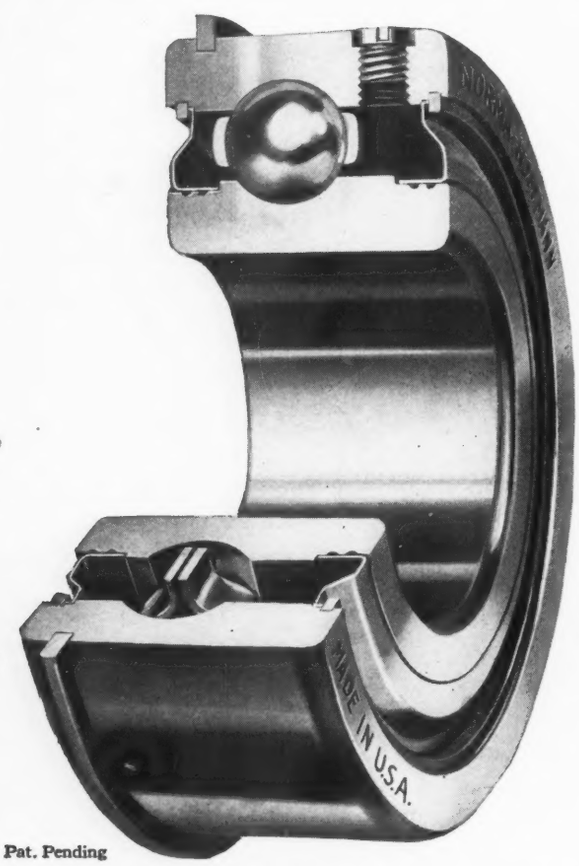
DEPENDABILITY—Uniform quality, easily worked, assuring trouble-free performance

Your nearest Morrill branch will gladly show you why inks of these standards are less costly in the long run.

NEWS *color* INKS *by* MORRILL

REVOLU

SIMPLIFY AND SAVE
With This
IDEAL SELF-SEALED BEARING



Pat. Pending

Made to standard double-row widths.

Available in Four Different Series

"3600" . . . . . with standard outer ring.
"43600" . . . . . with shoulder ring in outer ring.
"3600-J" . . . . with refilling plug in outer ring.
"43600-J" . . . with shoulder ring and refilling plug in outer ring.

TO "Simplify and Save" is the avowed aim of every progressive motor and machine designer. It is the economic doctrine preached by good management. It is made obligatory by competition.

In ball bearings, this aim is achieved in a highly practical way by the use of NORMA-HOFFMANN "CARTRIDGE" self-sealed ball bearings, as illustrated here and on the page opposite.

A revolutionary departure from orthodox design, the "CARTRIDGE" self-sealed ball bearing provides inherent features which, until now, could be incorporated in motors or machines only by elaborate, complex and costly external means.

No longer is it necessary for designers to choose a simple unprotected ball bearing, and then build an involved seal and mounting to insure satisfactory operation —since all requisite characteristics are embodied in the "CARTRIDGE" ball bearing — a self-contained, grease-packed and practically fool-proof unit.

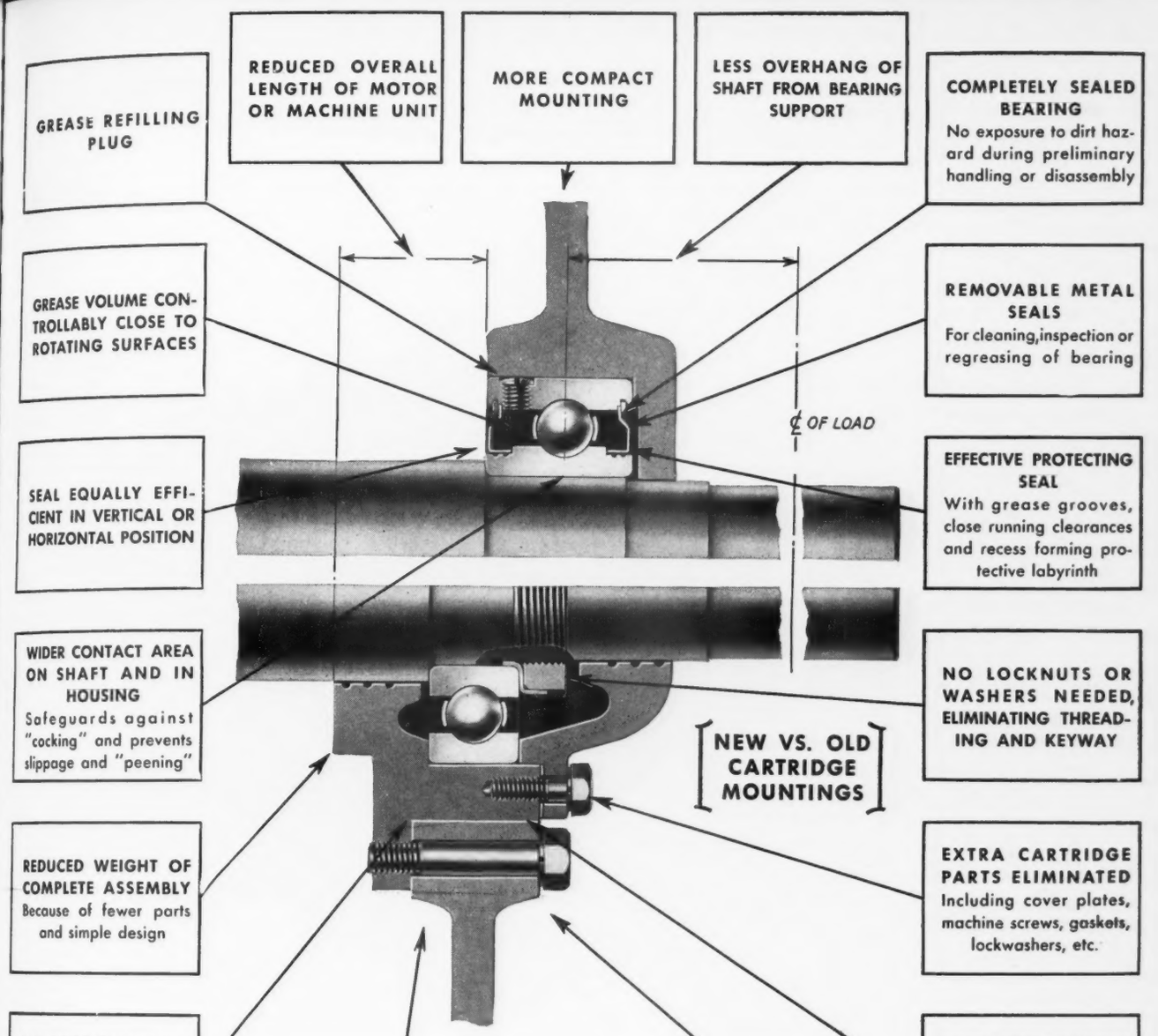
Thoroughly tested for several years in our laboratory and in the field under continuous duty, this bearing has demonstrated not alone its value and efficiency but ITS SUPERIORITY. Already a number of representative manufacturers of motors and other units have adopted it. It bids fair to be the bearing of the future, representing—as the advantages on the page opposite strikingly denote—a real forward step in simplifying design and in insuring improved efficiency, long, uninterrupted performance and absolute cleanliness.

"NORMA-HOFFMANN"

Ask for Catalog F-951-B, *containing full details and typical "Cartridge" mountings.*

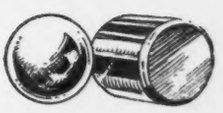
"CARTRIDGE"

UTIONARY


GREASE REFILLING PLUG
REDUCED OVERALL LENGTH OF MOTOR OR MACHINE UNIT
MORE COMPACT MOUNTING
LESS OVERHANG OF SHAFT FROM BEARING SUPPORT
COMPLETELY SEALED BEARING
No exposure to dirt hazard during preliminary handling or disassembly
GREASE VOLUME CONTROLLABLY CLOSE TO ROTATING SURFACES
REMOVABLE METAL SEALS
For cleaning, inspection or regreasing of bearing
℄ OF LOAD
SEAL EQUALLY EFFICIENT IN VERTICAL OR HORIZONTAL POSITION
EFFECTIVE PROTECTING SEAL
With grease grooves, close running clearances and recess forming protective labyrinth
WIDER CONTACT AREA ON SHAFT AND IN HOUSING
Safeguards against "cocking" and prevents slippage and "peening"
NO LOCKNUTS OR WASHERS NEEDED, ELIMINATING THREADING AND KEYWAY
NEW VS. OLD CARTRIDGE MOUNTINGS
REDUCED WEIGHT OF COMPLETE ASSEMBLY
Because of fewer parts and simple design
EXTRA CARTRIDGE PARTS ELIMINATED
Including cover plates, machine screws, gaskets, lockwashers, etc.
NO POSSIBILITY OF LOOSENESS BETWEEN CARTRIDGE AND FRAME
Joint shown can be eliminated
EASIER ASSEMBLY AND DISASSEMBLY OF COMPLETE UNIT
No extra or loose parts need be handled
NO MACHINING OF CARTRIDGE AND PARTS REQUIRED
IMPROVED BEARING ALIGNMENT
Dispensing with extra joint between cartridge and frame

NORMA-HOFFMANN BEARINGS CORP'N.—STAMFORD, CONN., U. S. A.

BEARING



MONOTYPE EQUIPMENTS

For Use in the Composing Room

Monotype Typesetting Machine—The fastest and most economical method of mechanical typesetting; sets type of the highest quality for good printing in justified lines up to 60 picas wide in all sizes from 4 to 18 point, inclusive. Can also be equipped with special attachment to make display type for hand-composition in all sizes up to 36 point, and to make rules, leads and slugs in strips of all sizes from 2 point to 12 point, inclusive, delivered in continuous strips or automatically cut to any desired measure.

Monotype Type-&-Rule Caster—A machine especially designed for the purpose of casting type for hand composition in sizes from 4 to 36 point, inclusive, and for making rules, leads and slugs in strips of all sizes from 2 point to 12 point, inclusive; product delivered in continuous strips or automatically cut to any desired measure.

Monotype Material Making Machine—A highly specialized mechanism for casting continuous strip material! Rules in sizes from 2 to 18 point; leads and slugs, from 1 to 18 point; decorative strip borders, from 2 to 12 point; single-column leads, slugs and cut-off dashes, 2 to 18 point; product delivered in continuous strips or automatically cut to labor-saving measures.

Monotype-Thompson Type-Casting Machine—A specially designed type founding machine for making type, quads, spaces and individual ornaments and borders in all sizes from 6 to 48 point. The typographic resources available for users of this machine include every letter and character for which Monotype matrices have been made in sizes from 6 to 48 point.

Monotype Giant Caster—Casts type, quads and spaces in all body sizes from 14 to 72 point, inclusive, and makes solid metal furniture in 14, 18 and 24 point sizes, and hollow metal furniture in all sizes from 14 to 72 point, inclusive.

For Offset and Gravure Printing

Monotype-Huebner Vertical Photo-Composing Machine with Non-Embossing Negative Holder and Universal Register Device—Designed for the special purpose of securing close precision in registering negatives for single and multicolor process work in lithographic offset and gravure plate making. Accuracy in positioning images on the plate is assured by rigid construction and by the use of notch bar positioning mechanism with micrometer movement for final adjustment into position. Made in three sizes.

Monotype-Directoplate Simplex Photo-Composing Machine for accurate placement of images on offset or lithographic press plates. Simple in operation and designed for multicolor reproduction or simple black-and-white work, and step-and-repeat work. Made in two horizontal models.

Monotype Photo-Imposing System—A practical method by which line color register can be obtained without the use of a photo-composing machine in making offset press plates. The System involves the use of an Adjustable Layout and Register Table, an all-metal Registering Vacuum Frame and Register Chases. Made in two sizes.

Monotype-Huebner Vertical Plate Coating Machine—For distributing and drying coating solution on plates intended for use on offset and gravure presses. In comparison to horizontal machines it saves time, uses less solution and makes better plates. Standard model made in four sizes; Junior model in one size.

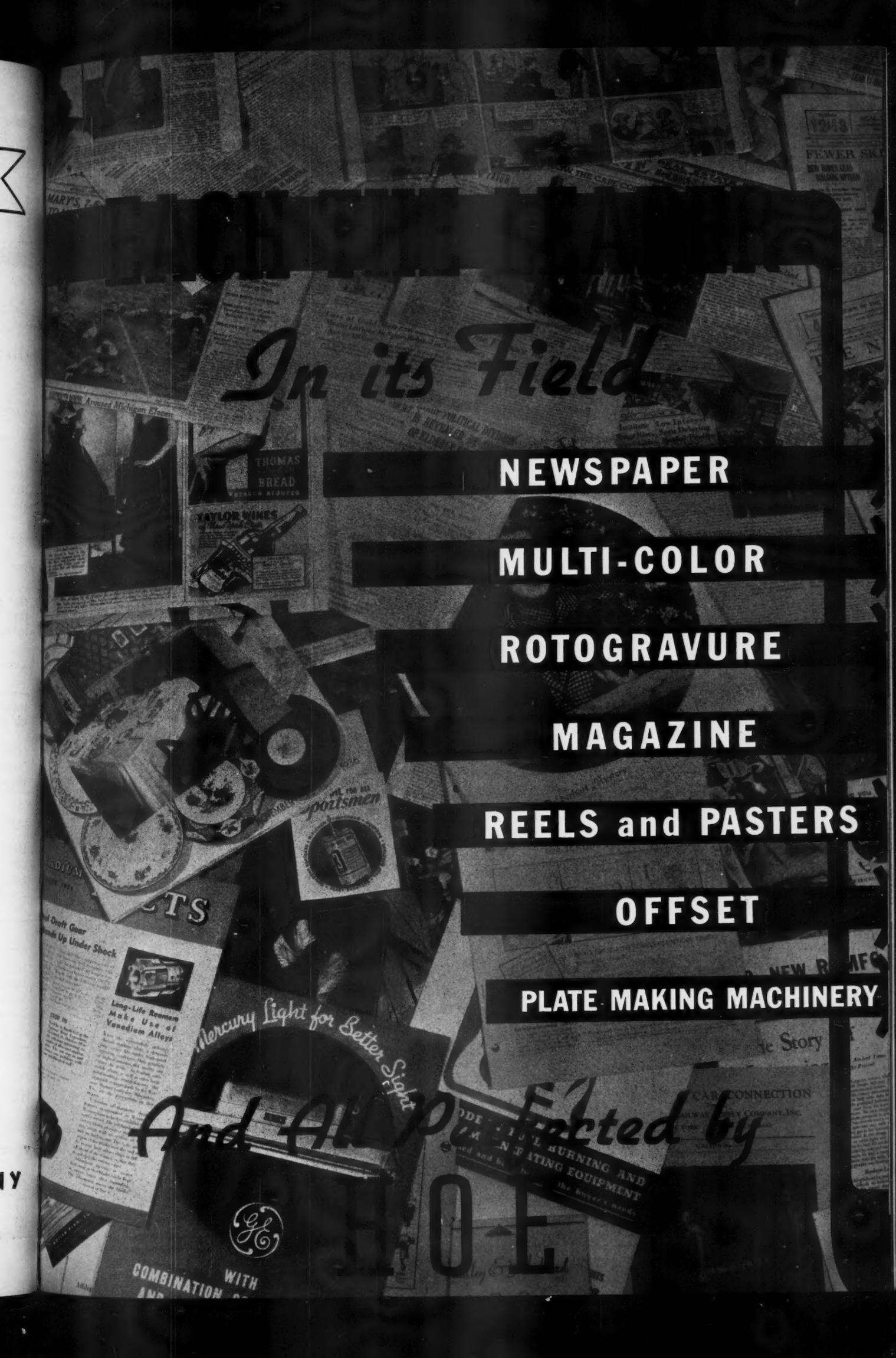
Monotype-Directoplate Typographic Camera—For the production of line, halftone and process negatives. Handles film or paper negatives, dry or wet plates.

Monotype-Directoplate Offset Color Proving Presses—Produces proofs in perfect register from either zinc or aluminum plates or from stones. Bed plates adjustable. Hand and electrically operated models in two sizes of each.

Folders in which each of the above units is fully illustrated and described will be sent on request.

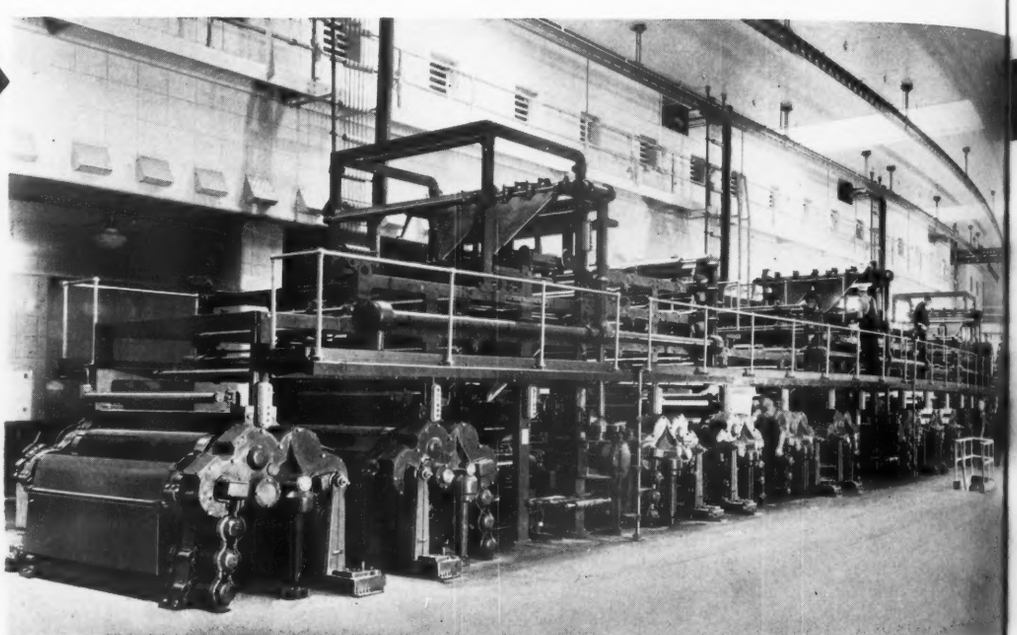
LANSTON MONOTYPE MACHINE COMPANY

Monotype Building, Twenty-fourth and Locust Streets, Philadelphia, Pennsylvania

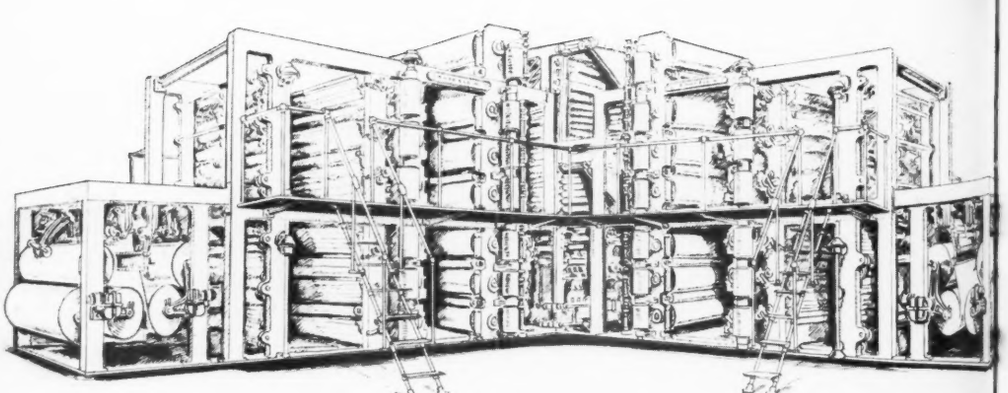

In its Field
NEWSPAPER
MULTI-COLOR
ROTOGRAVURE
MAGAZINE
REELS and PASTERS
OFFSET
PLATE MAKING MACHINERY
Mercury Light for Better Sight
WITH

Why HOE Builds the Best

Always embodying the most modern design that engineering genius can devise is the quality chiefly responsible for the pre-eminence of these Hoe Presses among the three major printing processes . . . letterpress, newspaper and magazine . . . rotogravure . . . offset lithography . . . for one or more colors. Into their construction passes the skill gained by Hoe from nearly 100 years' experience devoted to all types of rotary presses.

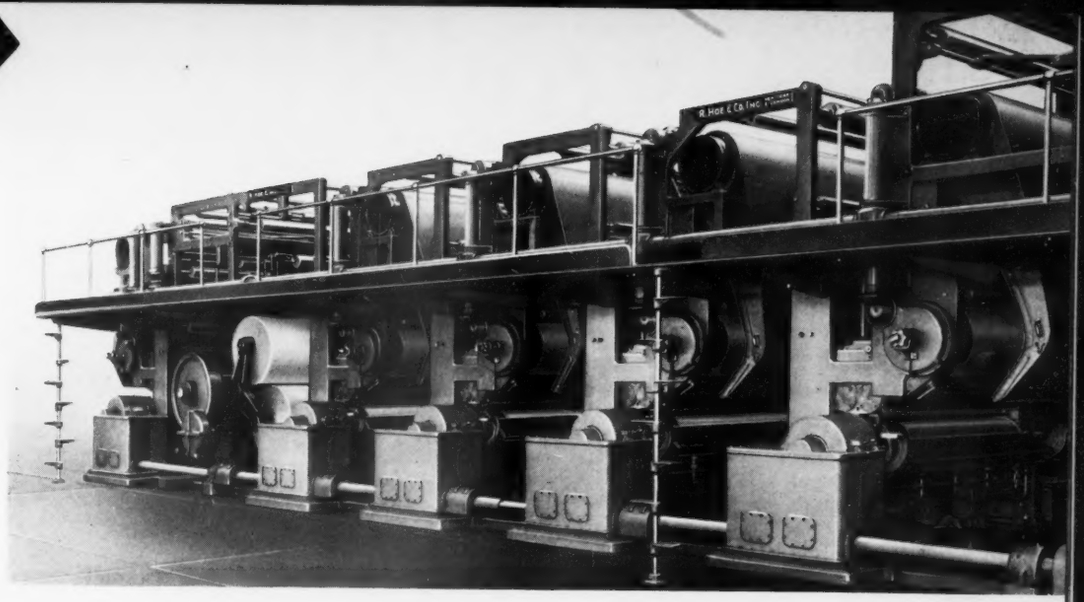


The Los Angeles Times is but one instance of the numerous newspapers throughout the world which are printed on new Hoe Presses. This 18-unit Arched-Type Super-Production Press is equipped for color work.

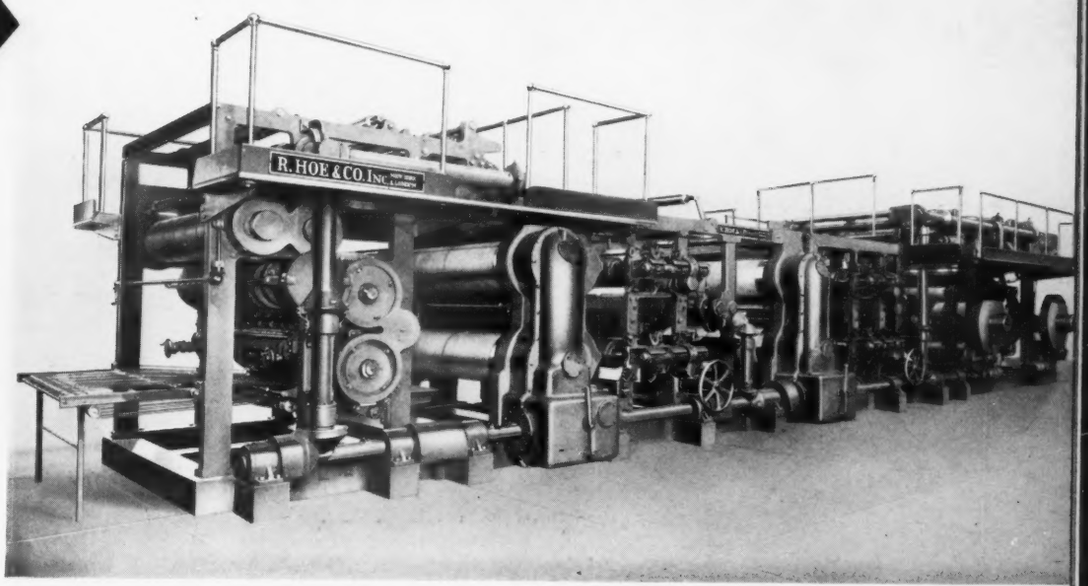


In step with the present emphasis on color printing in newspapers is this 26-unit Cleveland Plain Dealer Super-Production Multi-Color Newspaper Press . . . the world's largest, fastest, and most modern ever built.

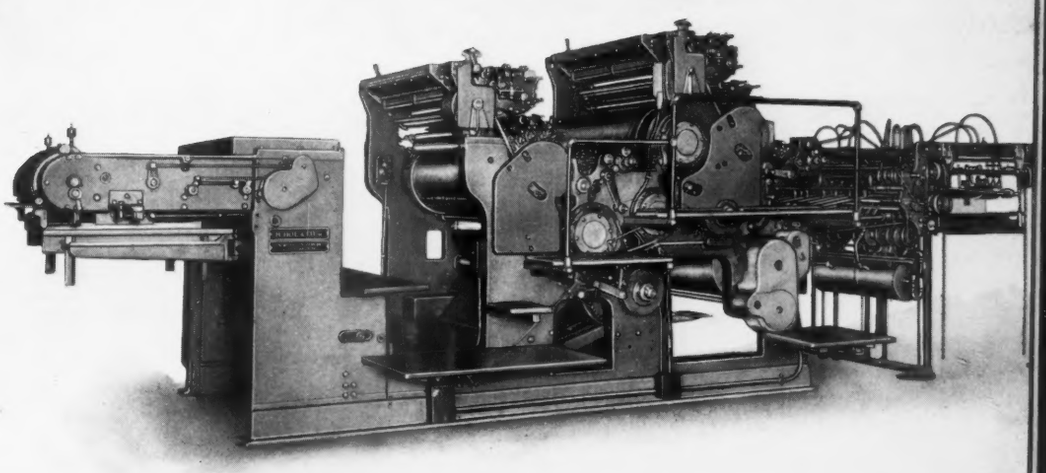
High Speed Multi-Color Rotogravure Presses are a Hoe specialty. The five-unit installation shown here was produced for Consolidated Press, Limited, Sydney, Australia. It develops a speed on multi-color work of 15,000 to 20,000 revolutions per hour, equivalent to 30,000 to 40,000 papers per hour, and even higher speeds on monotone.

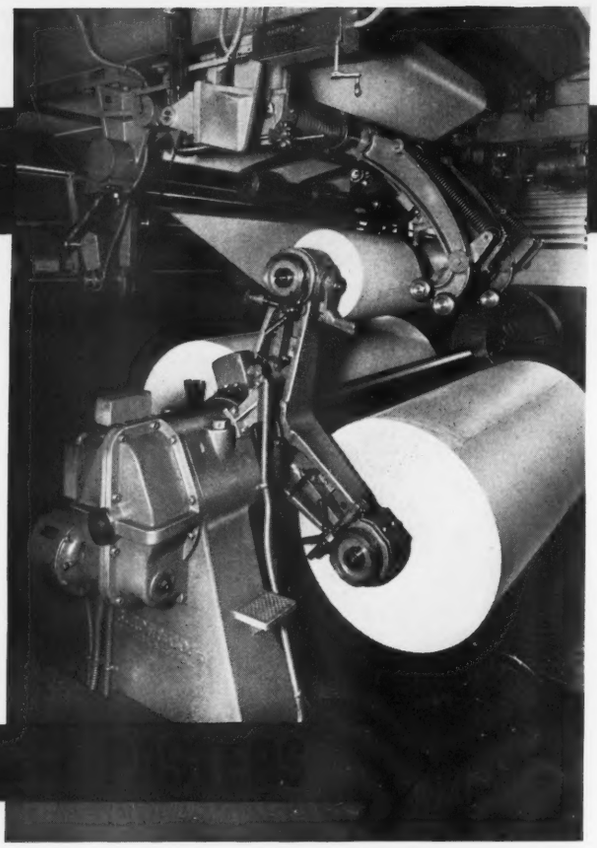


Two of these 192-page Hoe Super-Production Magazine Presses were installed recently by Street and Smith Publications, Inc., equipped for increased speed and the greatest efficiency with Hoe Automatic Tensions and Hoe Full Speed Pasters.



Hoe design is responsible, too, for the "World's Finest Offset Press," built to exacting standards and displaying many features which speed production and safeguard presswork quality. There are various sizes of Hoe Super-Offset Presses in one and two color models for paper printing and metal decorating.





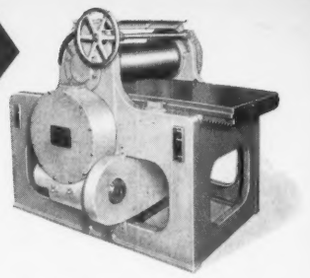
Perfected

PAPER-HANDLING AND PLATE-MAKING, TOO

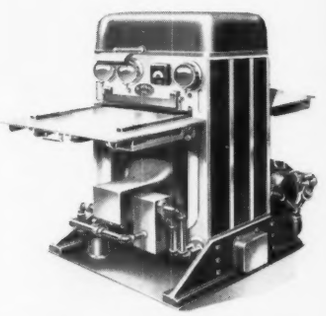
Bringing web presses to their highest efficiency are Hoe Reels with Electrically-Controlled Automatic Tensions and Hoe Full-Speed Pasters. They are now furnished, when desired, with all new Hoe Presses, but their benefits can be applied to existing equipment as well.

Beginning with the first requirement of fine quality presswork, and in keeping with Hoe's standards of design, is the well-known, complete Hoe line of precision plate-making equipment.

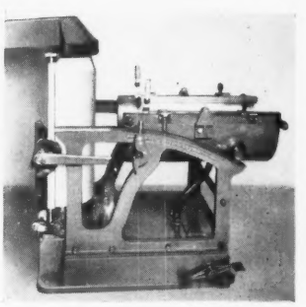
Additional information will gladly be furnished.



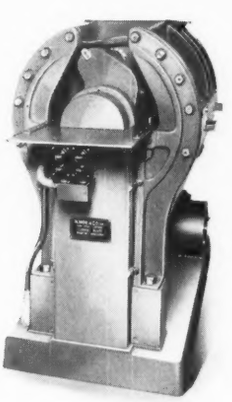
Hoe "Monarch" Roller Bearing Matrix Rolling Machine



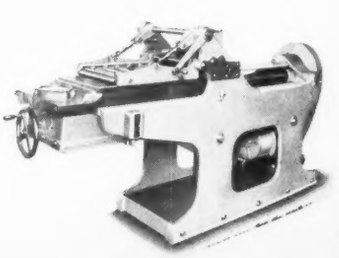
Hoe Direct-Pressure Hydraulic Matrix Moulding Press



Hoe Vacuum Curved Casting Mould with Electrically Heated Spout



Hoe Precision Curved Shaver and Cutting-Off Machine



Hoe Precision Flat Shaving Machine

R. HOE & Co., Inc.

• General Offices •
910 East 138th Street
(at East River)
• New York City •

BOSTON SAN FRANCISCO CHICAGO BIRMINGHAM

CLEAN *your* MATRICES (AND MAGAZINES) *by the* Klean-O-Mat PROCESS *in 35 Minutes*

With the "KLEAN-O-MAT" electrically operated cleaning and drying machine, a magazine and font of "mats" can be cleaned, dried, and returned to service in 35 minutes, without running out the mats. Compare this with the old hand method! Remember that 80% of all line casting machine errors are due to dirty, sticky "mats."

Protected by
U. S. Patents
1,804,331
1,890,374

THERE isn't any argument now about holding up production to clean mats when you can do it in 35 minutes *without running them out of the magazine.*

An operator will make up that time in one trick by smoother operation and reduced errors.

The "KLEAN-O-MAT" Process (with its 3 models) is geared to any size plant, from the largest to the smallest Daily and from the largest Commercial Plant in the world—the U. S. Government Printing Office (users since February, 1935)—right down the line.

Write today for full information concerning its application to your requirements. If you will state number of magazines you operate; number of operators employed and weekly wage scale, we will prepare and send you a cost analysis on your plant and our proposal to care for your needs.

National Printing Appliance Corporation
Western Union Building
60 Hudson Street **New York City**

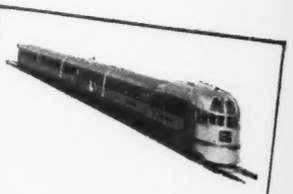
HIGHER PRINTING SPEEDS and HIGHER PRINTING QUALITY with TIMKEN EQUIPPED PRESSES

Problems of speed and precision in modern printing equipment are largely bearing problems — just as they are in modern machine tools. They are being solved in the same way, too—with Timken Tapered Roller Bearings.

The application of Timken Bearings to plate and impression cylinders is a major development in rotary press design. It is associated with increased production, improved quality, lower operating costs and greater dependability. A noteworthy example is the great Goss Press now in operation at the plant of the Chicago Tribune, which has a capacity of 60,000 complete newspapers per hour.

Comparable results are being obtained on many smaller presses—flat bed as well as rotary.

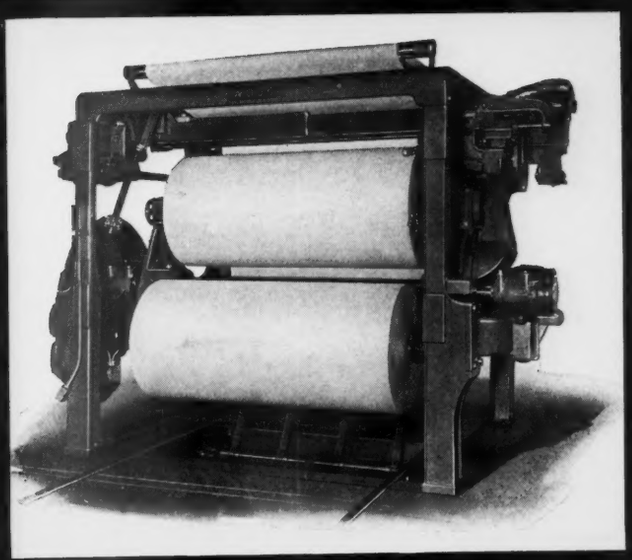
If you want your equipment to keep pace with the times put it on Timken Bearings. Timken engineers are ready to contribute their specialized experience and knowledge of bearing application to the solving of your problems.

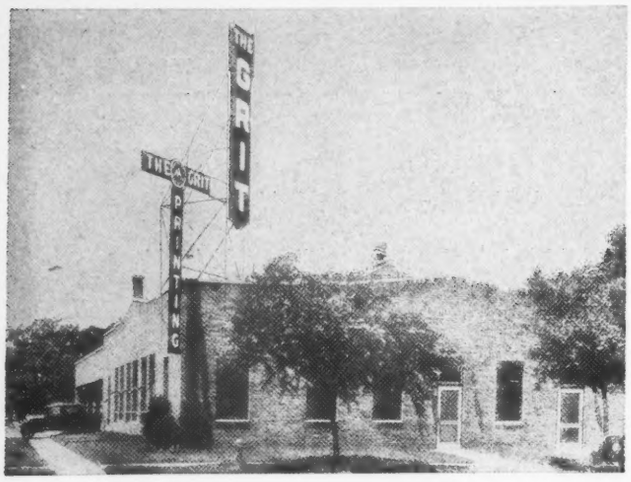


One of the 8 Burlington "Zephyr" Streamlined Trains Equipped with Timken Bearings.

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

TIMKEN *TAPERED ROLLER* **BEARINGS**





View of new home of the Grit Publishing Company in Wichita, Kas. All plant operations are conducted on the ground floor which contains 8000 sq. ft. of floor space. In this plant Zona Wheeler is head of the Art department; Clifford Schoff is in charge of the Pressroom, Ralph Berry of the Lithographing department; Earl Preddy of the Intertype department, and Myrtle Jones of the Bindery.

New Home

By STAFF WRITER

Grit Printing Company Plant Provided With Straight-Line Delivery

The Grit Printing Company of Wichita, Kas., is now housed in its new home at 745 South Emporia Ave. The Company does a general printing business which includes lithographing, mimeographing, multigraphing, complete letter service, direct mail campaigns, ideas, layout and copy, art work and cut services.

The new plant covers more than 8000 sq. ft. on a single floor and according to company officials, surpasses all expectations for maximum efficiency, airiness and ideal working conditions.

"The plant is ideal from every standpoint and is so arranged as to make possible scientific efficiency in the execution of any order," stated Gifford M. Booth, president of the company.

The plant is serviced by a semi-cooling system and enjoys excellent natural light. All operations are concentrated on one floor. In depth alone, the building extends for half a block.

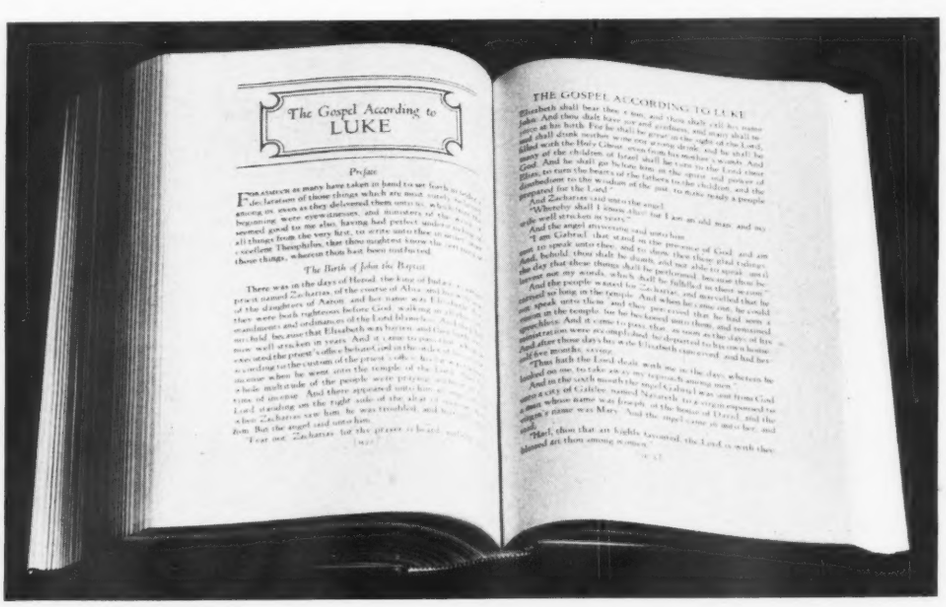
Mr. Booth also stated that the Grit Printing Company will be fifty years old in Wichita in 1937, having been established in 1887.

As nearly as possible, the plant has been laid out so that all work is routed from the sales department direct to the plant superintendent who then sends it to the composing machines, to the compositors, to the stoneman, to the presses and through the bindery to the delivery table without doubling-back. Even the chase racks are filled from one side by the stoneman and taken out on the other side by the pressman.

The only recent change in activities of the Company, according to Mr. Booth, is the installation of a small lithographing plant a little over a year ago. The success of the department has been sufficiently good that it is planned to increase the capacity of the department in the near future. The lithographing department is the only one which is maintained as a separate unit from the regular commercial printing departments.

AWARDED MEDAL AND SCHOLARSHIP

Irving Norgren of Brooklyn, New York, a senior in the Department of Printing at the Carnegie Institute of Technology, has been awarded a bronze medal and a scholarship of $50 by the Aldine Paper Company of New York for outstanding work during his three years of study. This is the first award that has been available to printing students in recent years. The firm plans to make the award annually in the interest of encouraging printing education.

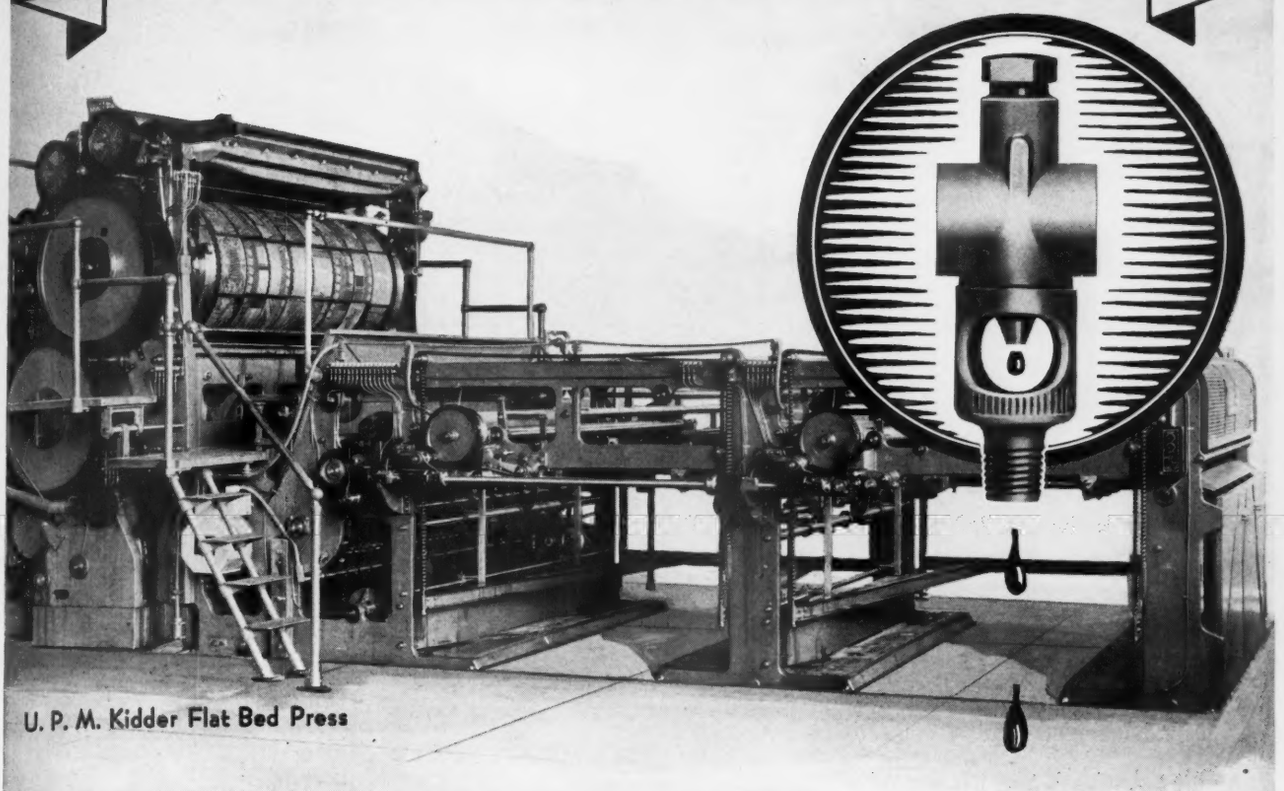

The Gospel According to LUKE

THE GOSPEL ACCORDING TO LUKE

A beautiful example of book making is The Bible *recently published by Simon and Schuster. Its craftsmanship throughout is such that all printing executives will appreciate the general effect of complete workmanship. The composition, printing and binding of the book were done by The Haddon Craftsmen, Camden, New Jersey. The general format is by Philip Van Doren Stern. The book is set in Frederick Goudy's 14-pt. Deepdene which was designed for Monotype. Many of the characters have been recut and refitted for the special purposes of this edition of the Bible. The paper is a cream laid-marked sheet supplied by Whitaker.*

In a note about the design and production of the book it is stated that the text offered a special problem in design in that it called for the setting of prose, verse, drama and letters. Typographic and production problems were interwoven with many problems of editorial selection, arrangement and presentation, as explained in the Editor's introduction. The Deepdene roman, italic and small caps were used in various ways to meet the requirements of the text.

AUTOMATIC OIL LUBRICATION



U. P. M. Kidder Flat Bed Press

Pulsolator Automatic Oil Lubrication is used as standard equipment by leading printing press builders and is installed on existing plant equipment by cost-minded printers.

INCREASES PRODUCTIVE TIME

Production time once wasted to hand oil or grease, but now devoted to printing, pays for Pulsolator System in a few months.

ELIMINATES BEARING FAILURE

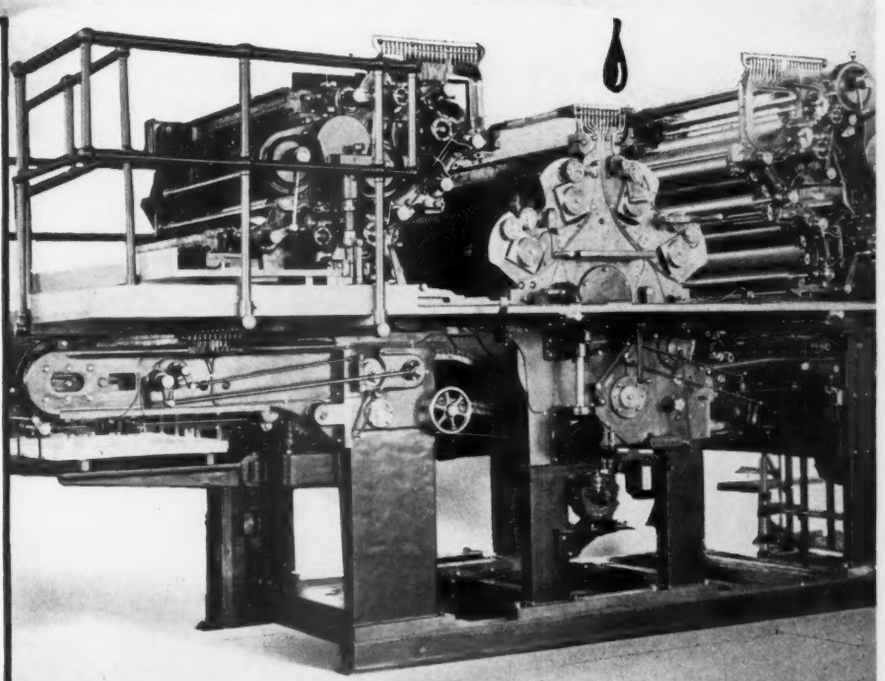
Year after year, maintaining their rates of feed, Pulsolator pressure responsive, "self-cleaning" feeders automatically assure every bearing positive lubrication.

CONTROLS MAINTENANCE COSTS

Pulsolator eliminates the cost of hand lubrication and places a mechanical control over oil consumption.

Write for Bulletin B-20

RIVETT LATHE & GRINDER INC.
BRIGHTON, BOSTON, MASS.



Cottrell 4-Color Rotary Sheet Feed Press

BLANCHARD PULSOLATOR

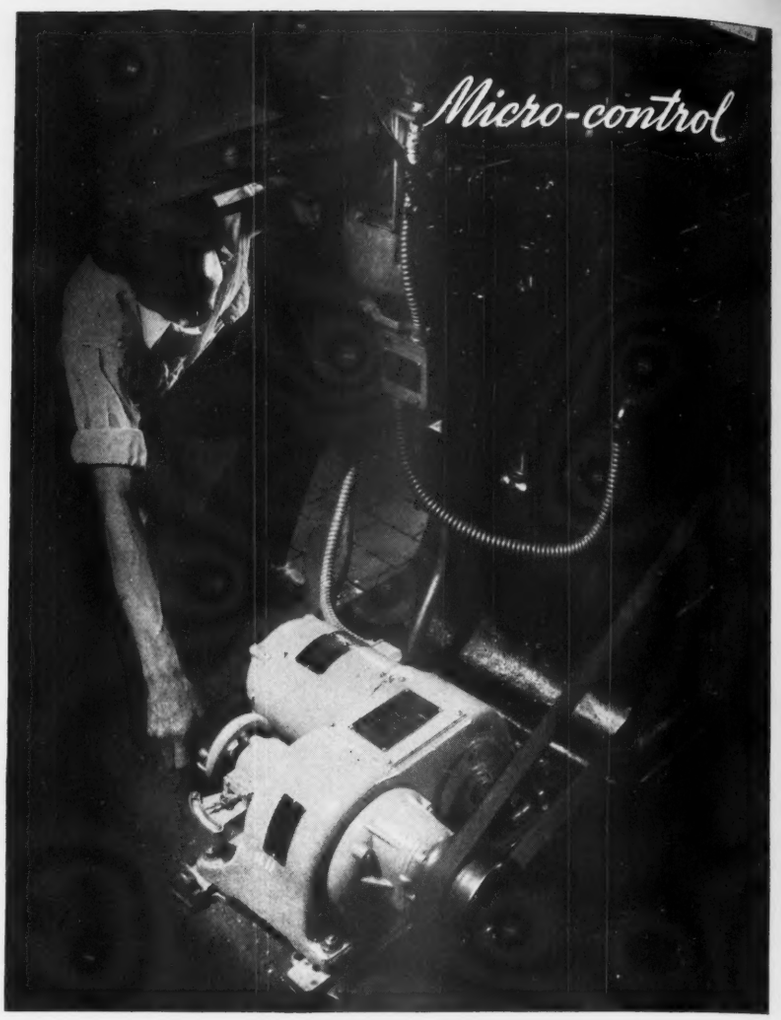
Discovered!

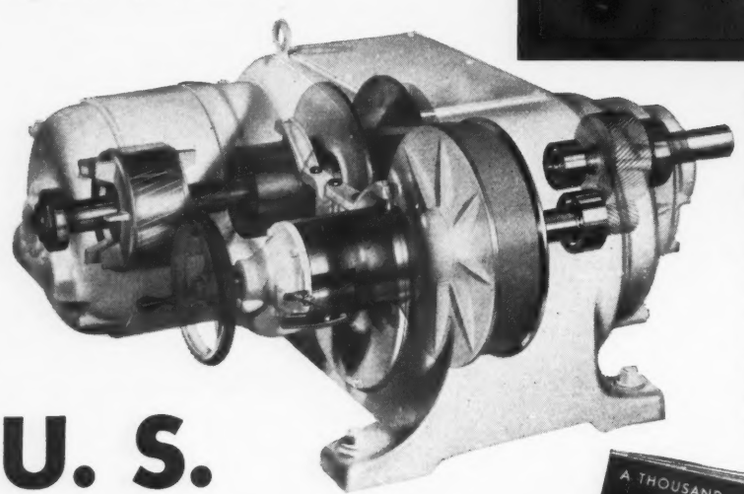
New way to reduce casting costs

How to get more production and cleaner casts from your type casting machine,—that's a problem completely solved by the U. S. VARIDRIVE Motor.

You can get any speed from 57 to 200 r.p.m. This permits you to use the highest possible speed consistent with the size and character of type you are casting. The metal properly solidifies because you vary the speed with hair-line precision.

With the wound rotor or slip ring motors commonly used, the exact speed is seldom obtained as the speeds available are in steps and these are rarely the speeds you desire.





U. S. VARIDRIVE *non-fluctuating* MOTOR

—the perfect power application for

CYLINDER AND JOB PRESSES • FOLDING MACHINES
PAPER CUTTERS • STITCHERS
TYPE CASTERS • ENVELOPE MACHINES • ETC.

1 to 10,000 r.p.m. RATINGS as low as 1/4 h.p.

SPEED variable to a fraction of an r.p.m.

If you use a slip ring or wound rotor motor your caster fluctuates in speeds when the pump goes on or off. If your caster is set at the correct speed with the pump off, it will operate at the wrong speed with the pump on and vice-versa. This objectionable fluctuation is overcome by the U. S. Varidrive.

With the U. S. Varidrive you get any r.p.m. you desire by merely turning the micro-speed control wheel. The U. S. Varidrive will positively increase both the output and quality of your work. The U. S. Varidrive will pay for itself in six months in the average plant.

MAIL COUPON FOR BULLETIN

U. S. Electrical Motors, Inc.
Atlantic Plant — 80 34th St., Brooklyn, N. Y.
Pacific Plant — 200 E. Slauson Ave., Los Angeles
Chicago-1500 S. Western Avenue
Please send Varidrive Bulletin

YOUR NAME_____
ADDRESS_____
CITY_____ STATE_____
MACHINE and H. P._____

Visit our Demonstration Rooms at the General Offices, 14th Street and S. Damen Ave., Chicago.

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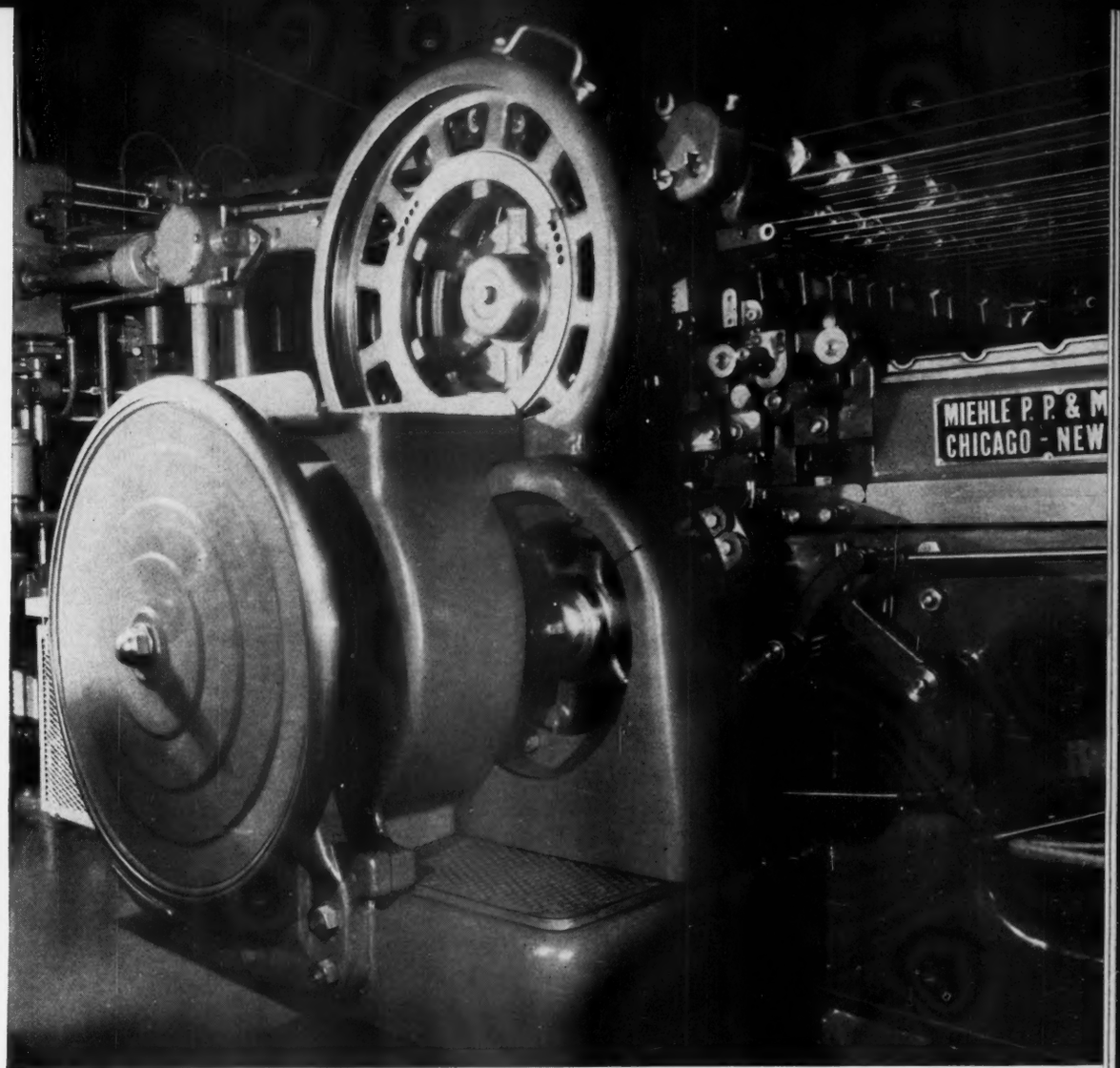

EQUIP FOR PROFITS

Protect your profits with the reduced running costs of modern Miehle Presses . . . standard equipment, capable of maintaining accurate register at all speeds.

MIEHLE VERTICAL
Sheet size 3¼ x 5½ to 13½ x 20—Speed, 2500 to 4500.

MIEHLE HORIZONTAL
Sheet size 8½ x 11 to 22 x 28—Speed, 2000 to 3600.

MIEHLE AUTOMATIC UNITS
Four sizes, sheets 22½ x 34 to 32 x 45½.

MIEHLE FLAT BED CYLINDER PRESSES
Thirteen sizes, sheets 22½ x 34 to 50 x 73½.

MIEHLE TWO COLOR PRESSES
Seven sizes, sheets 22 x 28 to 46¼ x 69½.

MIEHLE PERFECTING PRESSES
Three sizes, sheets 37 x 52½ to 45 x 68½.

MIEHLE CUTTING AND CREASING PRESSES
Five sizes, sheets 22 x 28 to 52 x 79½.

MIEHLE UNIT-TYPE OFFSET PRESSES
A complete line of sizes—Single and Multi-Color.

MIEHLE POWER PLATE PRESS
For steel engravings.

•

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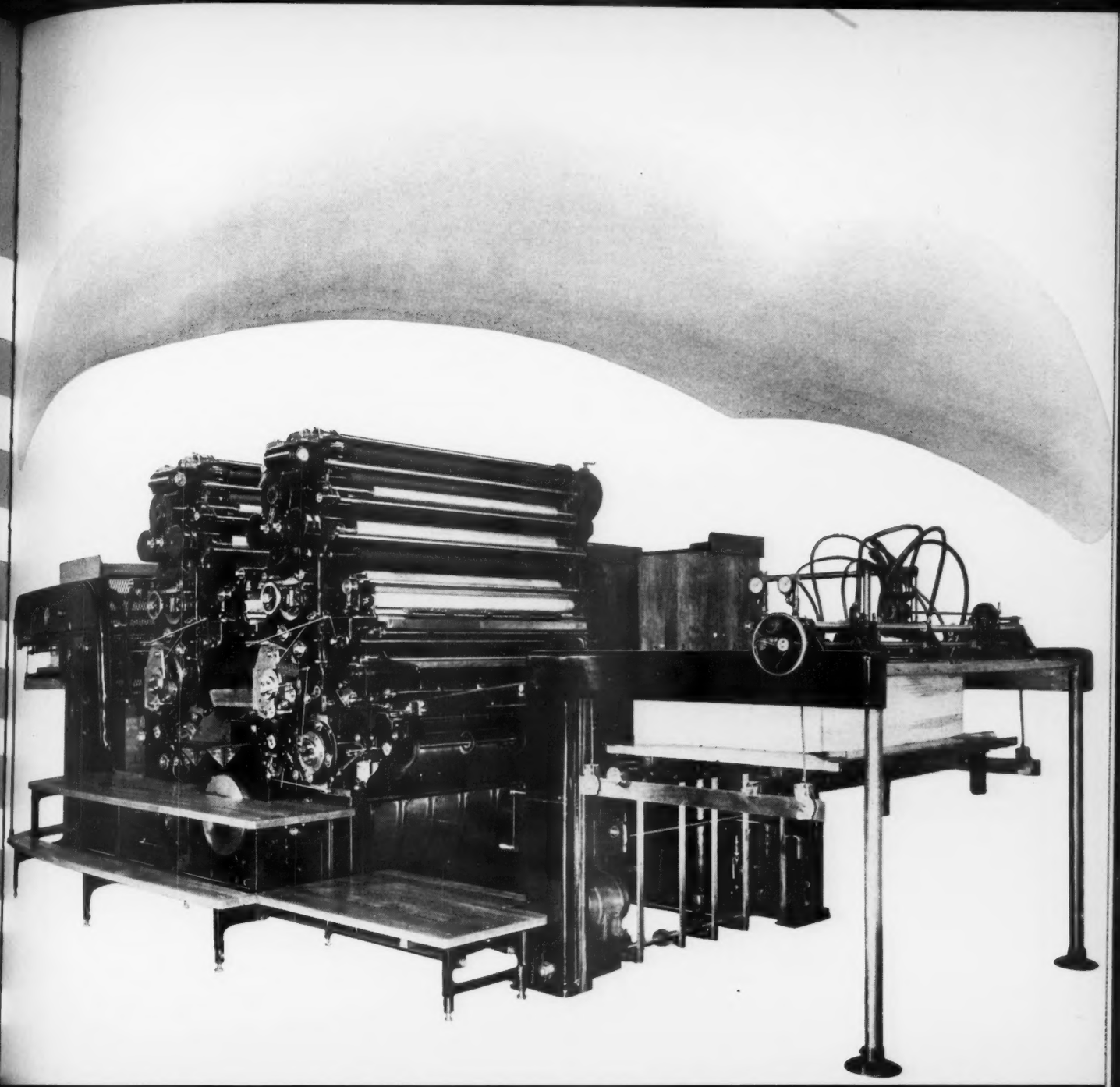

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26x40—1 and 2 colors

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41x54—1, 2, 3 and 4 colors

42x58—1, 2, 3 and 4 colors

(2-color illustrated)

46½x68½—1, 2, 3 and 4 colors

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Your Ultimate Critic

Appreciates Certified READING QUALITY

BEYOND their operating advantages—easy molding, quick scorching, low temperature casting—beyond their recognized uniformity, comes the quality that readers recognize and prefer in a paper printed from Certified Mats.

Most readers never heard of a dry mat, yet the reader is the ultimate critic of mat performance. The paper he chooses, as he hesitates at a news stand, the paper he reads with pleasure, the paper that becomes a habit with

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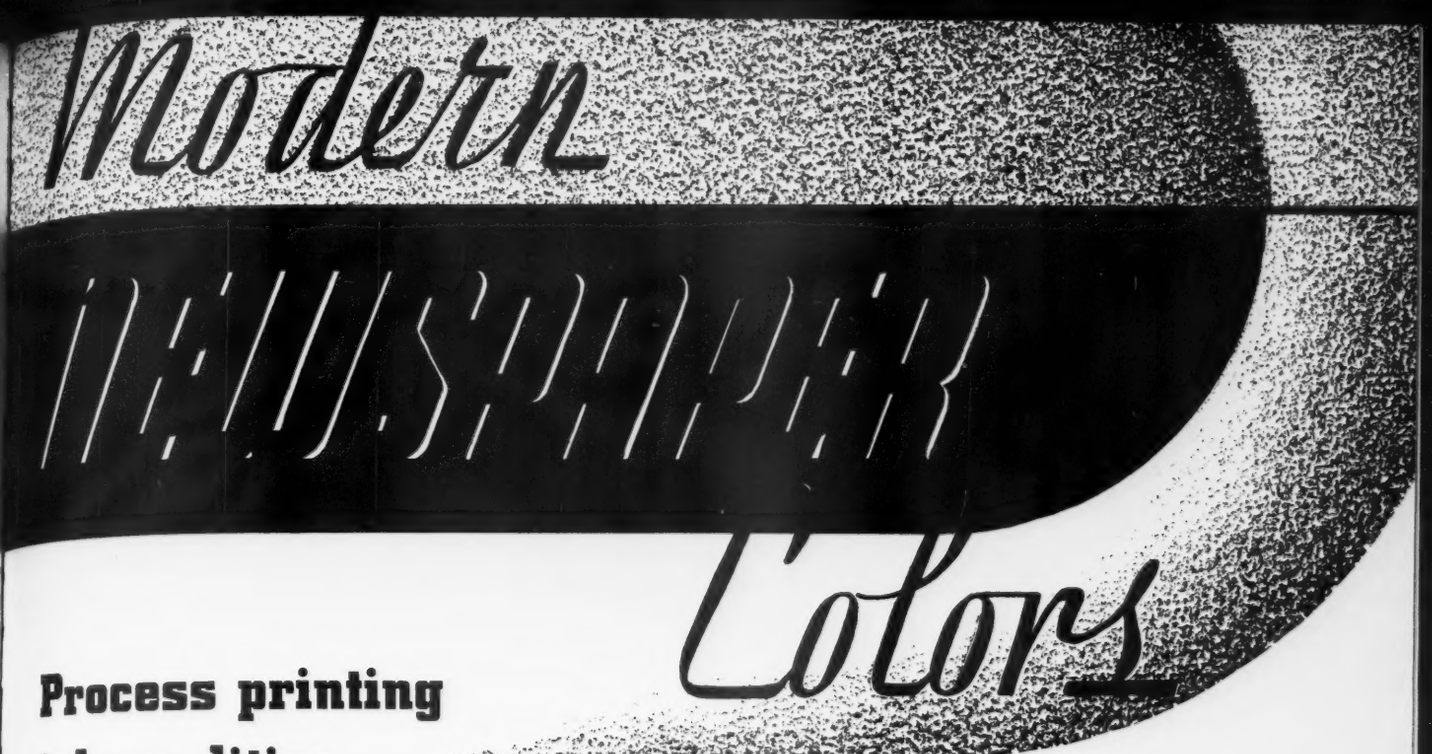


Process printing ink qualities now available in newspaper colors . . .

FINER PIGMENT PARTICLE SIZE
assures greater brilliance and color value

LIGHTER SPECIFIC GRAVITY
assures greater covering capacity

MORE THOROUGH DISPERSION
precludes settlement heretofore so objectionable in newspaper colors

RIGID TECHNICAL CONTROL
assures uniformity between shipments

INK MANUFACTURED
to standard of value to the consumer rather than

Your Ultimate Critic

Appreciates Certified READING QUALITY

BEYOND their operating advantages—easy molding, quick scorching, low temperature casting—beyond their recognized uniformity, comes the quality that readers recognize and prefer in a paper printed from Certified Mats.

Most readers never heard of a dry mat, yet the reader is the ultimate critic of mat performance. The paper he chooses, as he hesitates at a news stand, the paper he reads with pleasure, the paper that becomes a habit with him is a paper distinguished by clear, deep molded stereotyping. In many instances, Certified Mats have given this distinguishing touch.

For dependable stereotyping, rely on Certified Mats, made in the U. S. A.

CERTIFIED DRY MAT CORPORATION

338 MADISON AVE. NEW YORK, N. Y.

Certified DRY MATS

Modern NEWSPAPER Colors

Process printing ink qualities now available in newspaper colors...

FINER PIGMENT PARTICLE SIZE
assures greater brilliance and color value

LIGHTER SPECIFIC GRAVITY
assures greater covering capacity

MORE THOROUGH DISPERSION
precludes settlement heretofore so objectionable in newspaper colors

RIGID TECHNICAL CONTROL
assures uniformity between shipments

INK MANUFACTURED
to standard of value to the consumer rather than to meet a price

News Colors

...suitable for

HIGH-SPEED DAILY COLOR PRINTING
COMIC SECTIONS • MAGAZINE SECTIONS

Our Technical Service will gladly cooperate to solve your Printing Problems

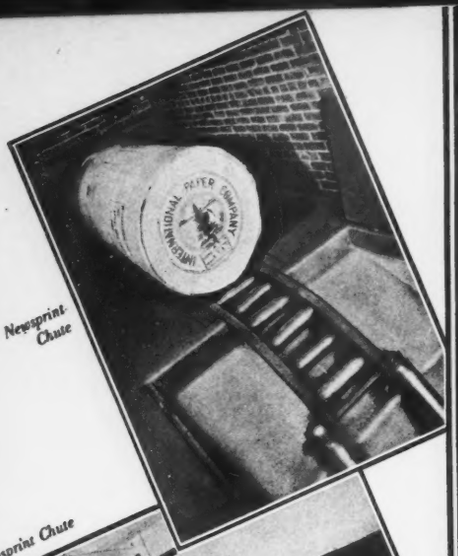
Inks

FRED'K H. LEVEY CO., INC

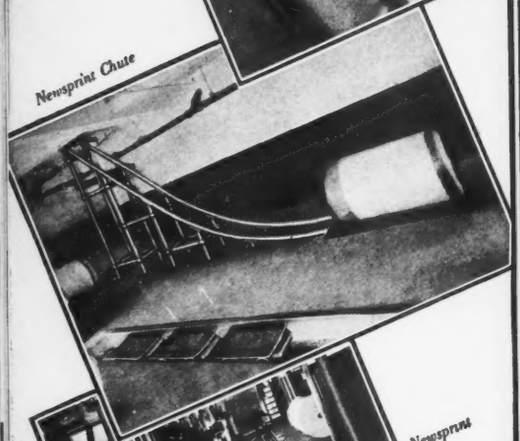
Makers of Fine Printing Inks... Since 1874

NEW YORK	PHILADELPHIA	CHICAGO
59 Beekman Street	1223 Washington Avenue	221 East Cullerton Stre

MAKE EVERY SECOND COUNT



Newsprint Chute



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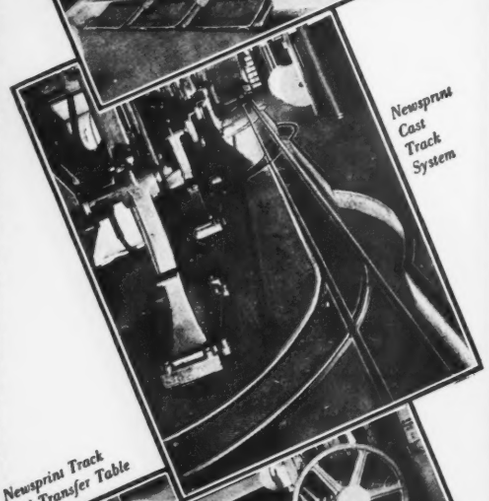
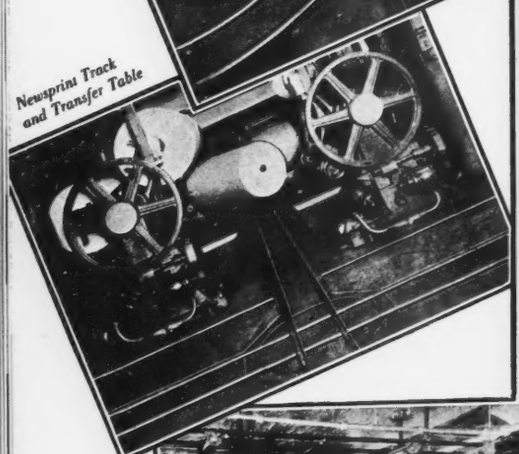
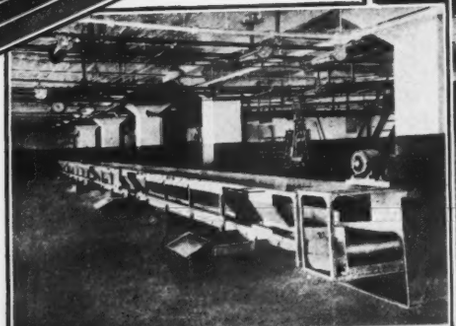


Newsprint Cast Track System

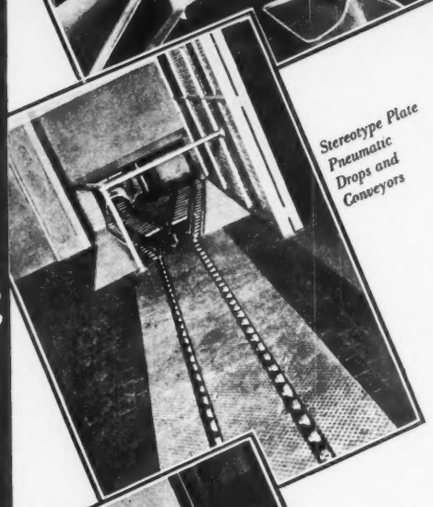


Newsprint Track and Transfer Table

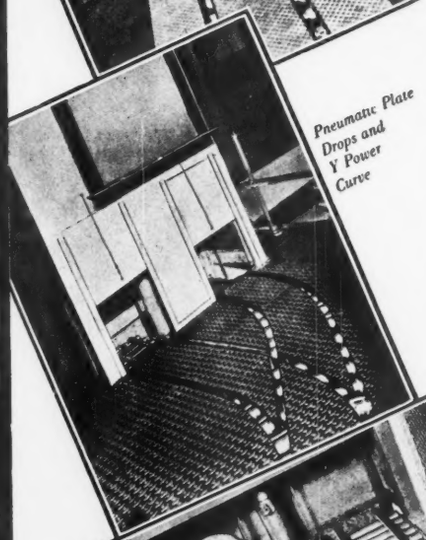


Combination Bundling Table and Conveyor

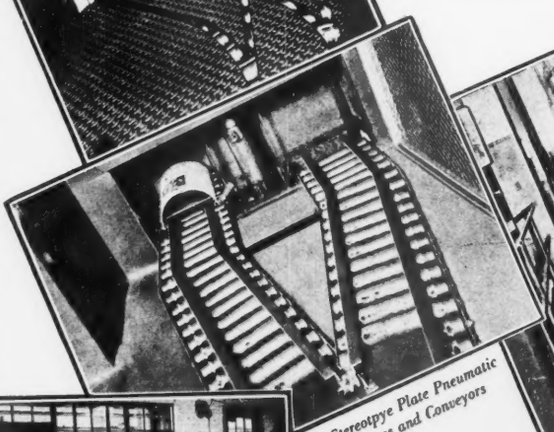
Stereotype Plate Pneumatic Drops



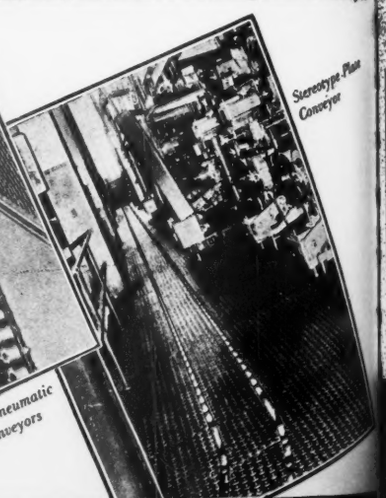
Stereotype Plate Pneumatic Drops and Conveyors



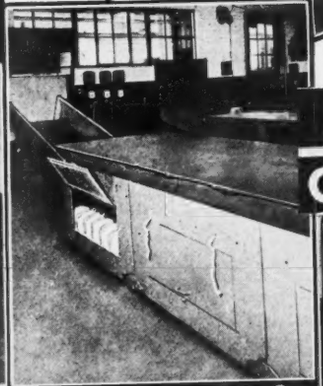
Pneumatic Plate Drops and Y Power Curve



Stereotype Plate Pneumatic Drops and Conveyors



Stereotype Plate Conveyor



SPECIALISTS IN MATERIAL HANDLING FOR NEWSPAPER PLANTS

The PUBLISHER, ARCHITECT or ENGINEER will find it to his distinct advantage in placing his entire new building or change over problem with our organization. The departments to be served and the equipment we furnish are as follows:

PRESS ROOM

Stereotype Plate Independent Pneumatic Drops
Counter Balanced Pneumatic Plate Drops
Stereotype Plate Electric Elevators
Matrix Chutes
Matrix Conveyors
Steel Press Floor
"Feralun" Plate Press Floor

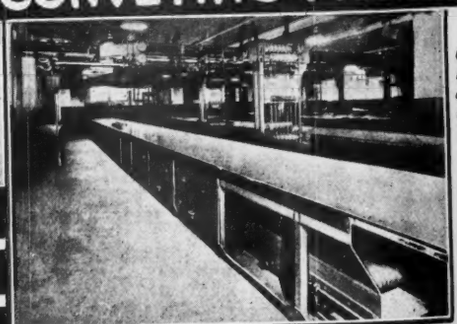
NEWSPRINT

Newsprint Chutes
Newsprint Conveyors
Newsprint Elevators
Newsprint Pneumatic Drops
Cast Iron Tracks
"Feralun" Tracks
Cast Iron Turn Tables
"Feralun" Turn Tables
Steel Transfer Tables
"Feralun" Transfer Tables
Fixed Top Dollies
Swivel Top Dollies

MAILING ROOM

Bundle Belt Conveyors
Spiral Chutes
Mailing Tables
Patented Combination Bundling Table & Conveyor

LET US SOLVE YOUR CONVEYING PROBLEMS



(Cross above) Combination Bundling-Table and Conveyor with Cord Enclosure

Combination Bundling-Table Conveyors and Cord Enclosure

THE JAMPOL COMPANY

11 PARK PLACE, NEW YORK, N.Y.

OFFICES IN PRINCIPAL CITIES

Proof

VULCAN

CYLINDER PACKINGS FOR NEWSPAPER PRESSES

A complete line, including felt and non-felt blankets, E. D. blankets, draw sheets, and underpackings.

VULCAN

VULCOLASTIC ROLLERS FOR NEWSPAPER PRESSES

No rubber; no swelling. Soft and easy to set. Distribute and apply ink evenly. Unaffected by temperature changes.

VULCAN

OFFSET BLANKETS FOR LITHOGRAPHERS

Standard for nearly twenty-five years and used by a majority of lithographers. Different blankets for different purposes.

VULCAN

LITHOLASTIC ROLLERS FOR OFFSET PRINTERS

Completely synthetic. Do not crack or chip. Free from stickiness and swelling. Unaffected by temperature changes.

VULCAN

MAKEREADY BLANKETS FOR LETTERPRESS PRINTERS

Promote clean presswork and effect a substantial reduction of makeready time. Oil-proof, flexible, durable.

VULCAN

GELASTIC ROLLERS FOR LETTERPRESS PRINTERS

Synthetic, soft, resilient, and uniform. Eliminate loss of press time for roller changes due to heat or cold. Particularly good for modern high-speed presses.

Like the Beef Trust Chorus and the Horseless Carriage—

IT'S OLD FASHIONED!

TO USE OBSOLETE MATRIX SCORCHERS

Obsolete matrix scorchers have no place in the modern production methods of today. An inefficient scorcher can retard production in a newspaper just as much as a horseless carriage would retard your Sunday drive.

Model "K" Flat Form-O-Scorch

Keeping abreast with the publishers' demands, Form-O-Scorch machines have been designed to meet every phase of dry mat preparation. Form-O-Scorch machines offer more efficient matrix preparation, faster production and lower operating cost.

Over three hundred newspaper plants have adopted the Form-O-Scorch machine as standard equipment. 12 different models are available to meet the conditions in any plant. Write for details of a machine for your particular requirements.

Model "F"
Flat Form-O-Scorch

The Scorcher Specialists of the Trade

Just Out

A New Catalog
of
NEWSPAPER PRINTING SUPPLIES

write for copy

AMERICAN PUBLISHERS SUPPLY
WEST LYNN, MASSACHUSETTS

FORM-O-SCORCH

PREPARES MATS MORE EFFICIENTLY

FASTER AND MORE UNIFORM RESULTS

MORE EFFICIENT MATRIX PREPARATION

LOWER OPERATING COST

ADJUSTABLE TEMPERATURE

SELF-CONFORMING CURTAIN COVER

A THOUSAND STAGES OF HEAT

OUTSIDE REMOVABLE HEATING UNITS

AUTOMATIC MATRIX TIMER

ADJUSTABLE FORMING TENSION

RUGGEDLY CONSTRUCTED

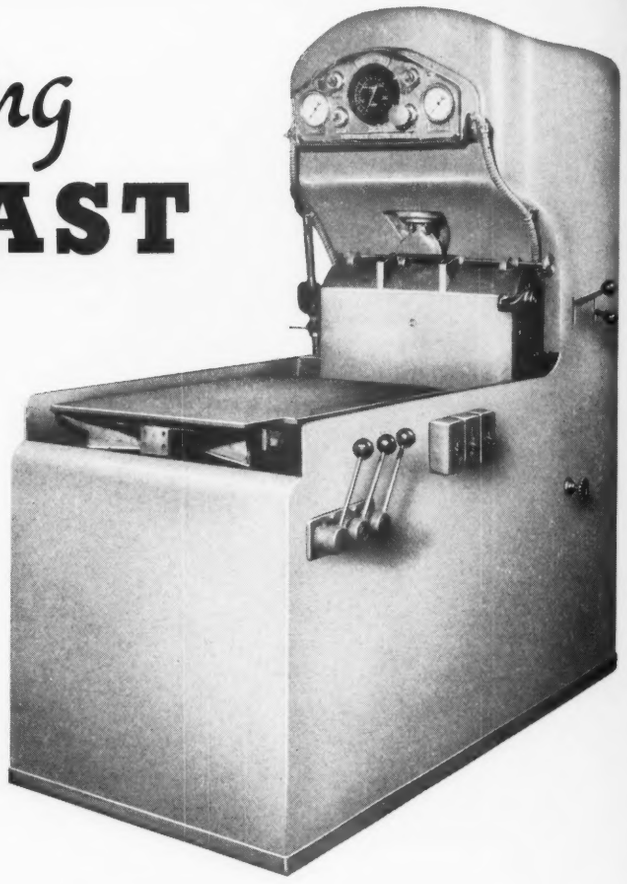
SOLD ON APPROVAL

—Write for Prices —

AMERICAN PUBLISHERS SUPPLY
WEST LYNN, MASSACHUSETTS

Announcing
HYDROCAST

A NEW FLAT CASTING UNIT



The Electro-Hydraulic Machine Company presents the newest development in flat plate casting—a hydraulically operated machine for casting stereotype plates of uniform density and level printing surface. The hydrocast combines all the functions of a plate casting box, a casting machine and a 1000-lb. internally-heated metal pot so arranged in one complete unit as to produce accurate plates economically and with utmost speed.

The Hydrocast has these distinct advantages: Instead of the tiresome hand operations necessary in operating the old type box, the Hydrocast has three levers which govern all hydraulically operated movements. A hydraulic locking system automatically takes care of plate thicknesses in the casting box from 5 points to type high, without any adjustments. Mats are held perfectly level on the platen by vacuum to prevent "buckles". The flow of metal is controlled as to amount required for different size plates. Temperatures of both metal and bed are held within exceedingly close limits to insure uniform casts and rate of cooling for any number of plates. The above advantages enable the Hydrocast to produce the fastest and most accurate work on any type of flat casting equipment. A simple mechanical operation causes the metal in the plate to set with close-grained structure of maximum density. These are but a few of the advantages of the Hydrocast. The cost of this machine is in keeping with the cost of other equipment necessary to produce similar work.

The Newest Development in Flat Casting

Write today for complete specifications and descriptions of the Hydrocast

The Electro-Hydraulic Machinery Company

1025 SWEITZER AVENUE AKRON, OHIO

Ask Us

to send you

SAMPLES . . . A CASE ORDER
A SALESMAN . . .
FREE HAND MITTS

JOT DOWN YOUR WISHES ON THE OTHER SIDE OF THESE CARDS . . . MAIL THEM . . WE PAY THE POSTAGE

WOOD DRY MATS

RITE REQUESTS ON OTHER SIDE, TEAR OFF AND MAIL—NO POSTAGE REQUIRE

FIRST CLASS
PERMIT No. 2
(Sec. 510 P. L. & R.)
HOOSICK FALLS, N.Y.

BUSINESS REPLY CARD
No postage stamp necessary if mailed in the United States

2c—POSTAGE WILL BE PAID BY—

WOOD FLONG CORP'N
HOOSICK FALLS
NEW YORK

FIRST CLASS
PERMIT No. 2
(Sec. 510 P. L. & R.)
HOOSICK FALLS, N.Y.

BUSINESS REPLY CARD
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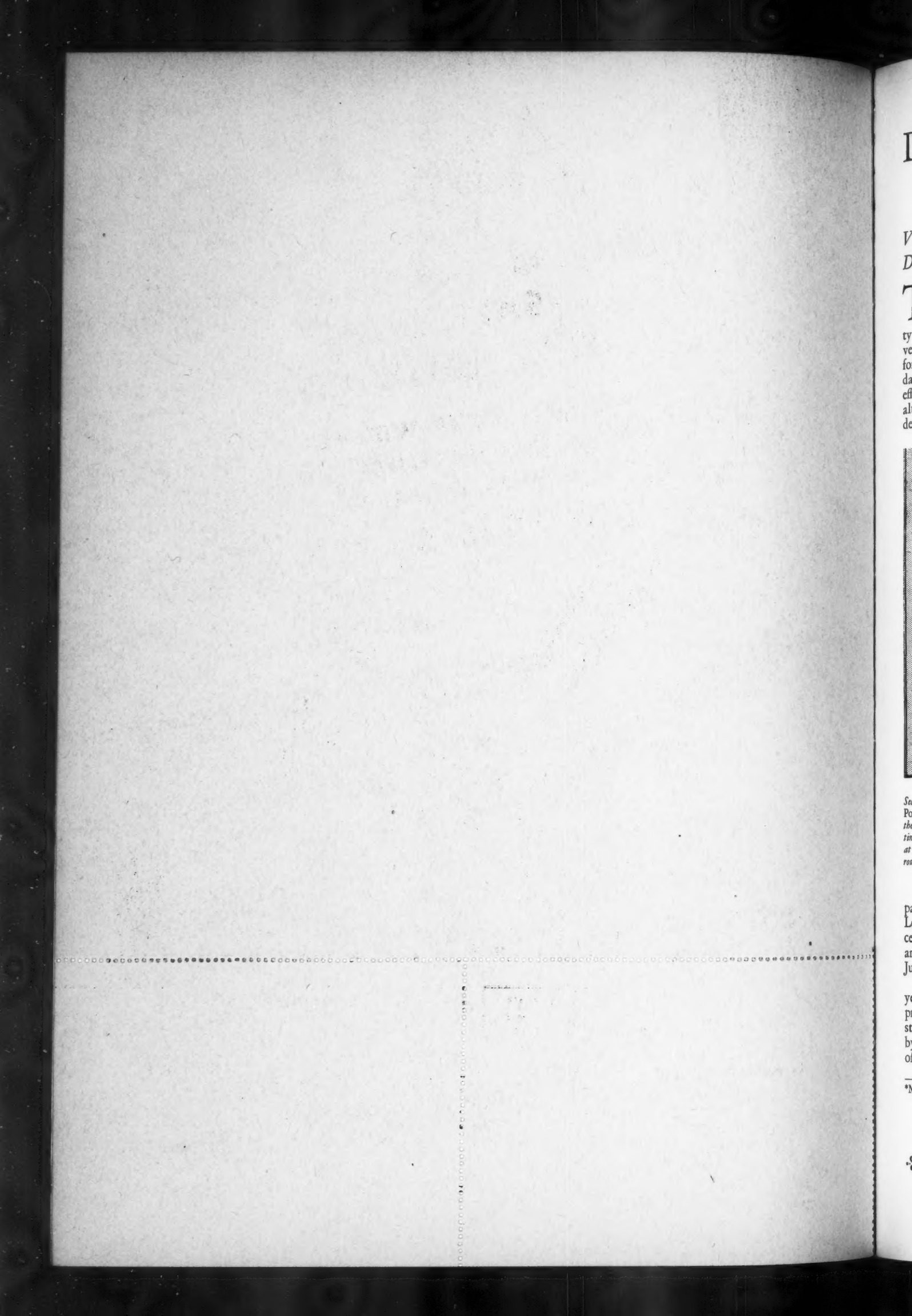


Double Rolled Mats

By FERD. L. ARNOLD*

Variation of Method Described by L. R. Church Discussed by Mechanical Executive

THE article in the September issue of *Printing* EQUIPMENT *Engineer* concerning the effects secured by the double rolling of stereotype mats to produce type on "bendayed" mats direct from the type form is very interesting but is not a new method of procedure for securing these effects. We have been using this benday screen in full size advertisements, for decorative effects, and in trade journals for the past three years, although our method differs in its essentials from that described by Mr. Church.

CHARLES DUFFY, Jr., Manager
After the Game!...the
WALTON ROOF
One of Philadelphia's most entertaining night clubs... atop the Hotel Walton! Whirlwind, all-star revue with a cast of 40... including a gorgeously-gowned chorus, specialty acts, and a popular broadcasting orchestra. Never a cover charge!
The WALTON HOTEL
BROAD STREET AT LOCUST
Philadelphia

Section of two-column advertisement appearing in Morgantown (W. Va.) Post *and* Dominion-News. *The benday effect was secured by first impressing the stereotype matrix with a screened etching and afterwards molding (a second time) in the usual manner. However, Ferd. L. Arnold states the open spaces at either side of the panel were too narrow for the routing tool. In lieu of routing, the open spaces were filled with Nu Ink previous to making the cast.*

In April, 1934, I went to Washington to file patent papers for the essentials of this process, but found that Leslie E. Morningstar of Wheeling, W. Va., had preceded me by 28 years, receiving patents Nos. 891,499 and 1,112,356 for this work. The first he received on June 23, 1908, and the second on September 29, 1914.

The fundamental idea has remained the same all these years—to impress the type layout with a second impression for an advertisement or decorative effect on a stereotype matrix which has been prepared previously by impressing a benday or other design in the surface of the mat.

For the benefit of the printing trade, I would like to outline our own method of handling these bendayed plates.

The portions of the advertisement that are to be set in type are first put in a chase for a 10 in. by 15 in. Chandler & Price press, although any make or size press will do. After locking the type in the chase, we prepare the press for this impression process by removing all tympan except a draw sheet and then place a brass plate 1/16 in. thick and the size of the platen under the draw sheet.

Our benday mat, rolled in the regular way from an etched benday plate on the mat roller, is inserted on the tympan and the type is impressed into the mat. We set our impression to about 0.005 in. deeper than the benday impression.

We find that mats made in this manner require no hand tooling, and no rubbing down with electrotypers, rubber and we use them immediately after casting and trimming. In fact, plates made by this method have been put on the page forms fifteen minutes after the type was set and locked up in the press chase.

This method comes in very handy for embellishing advertisements with art work, which can be done easily with a stylus after impressions are made. In a great many cases, we use Nu-mat ink for art work and routing of benday portions of the plate.

Letter TO THE EDITOR

On page 21 of the September issue of *Printing* EQUIPMENT *Engineer* appeared an interesting article on the making of screened stereotype plates by double rolling the mats. It is apparent that minds work on identical problems even though widely separated as to locality. It may interest your readers to know that more than two years ago Clement Crandall of the Franklin Printery in Fort Smith and myself of the Craftsman Press got together and in furbishing some old ideas accumulated from past experience, began some experiments along the line of double-rolled mats. In a short time we developed our idea and produced a number of stereotypes in practically the same manner as described in Mr. Church's article, excepting that not possessing a mat roller we made the impressions on a job press.

In some instances we used blotting board for the mat. The blotter was embossed with various designs and these we used for the background over which we impressed the type from. Although we had the benday mat in mind, we had no benday plate, so we used other ideas to produce a number of the background designs. One of these was the use of typographical borders of suitable character. Another was the use of brass rule of several face patterns which could be arranged quickly to form various designs.

When we first saw the possibilities of the process we thought of getting it patented but discovered shortly that patents (which have expired) had been taken out on the basic idea, although in our opinion, the patentee's methods were impractical.

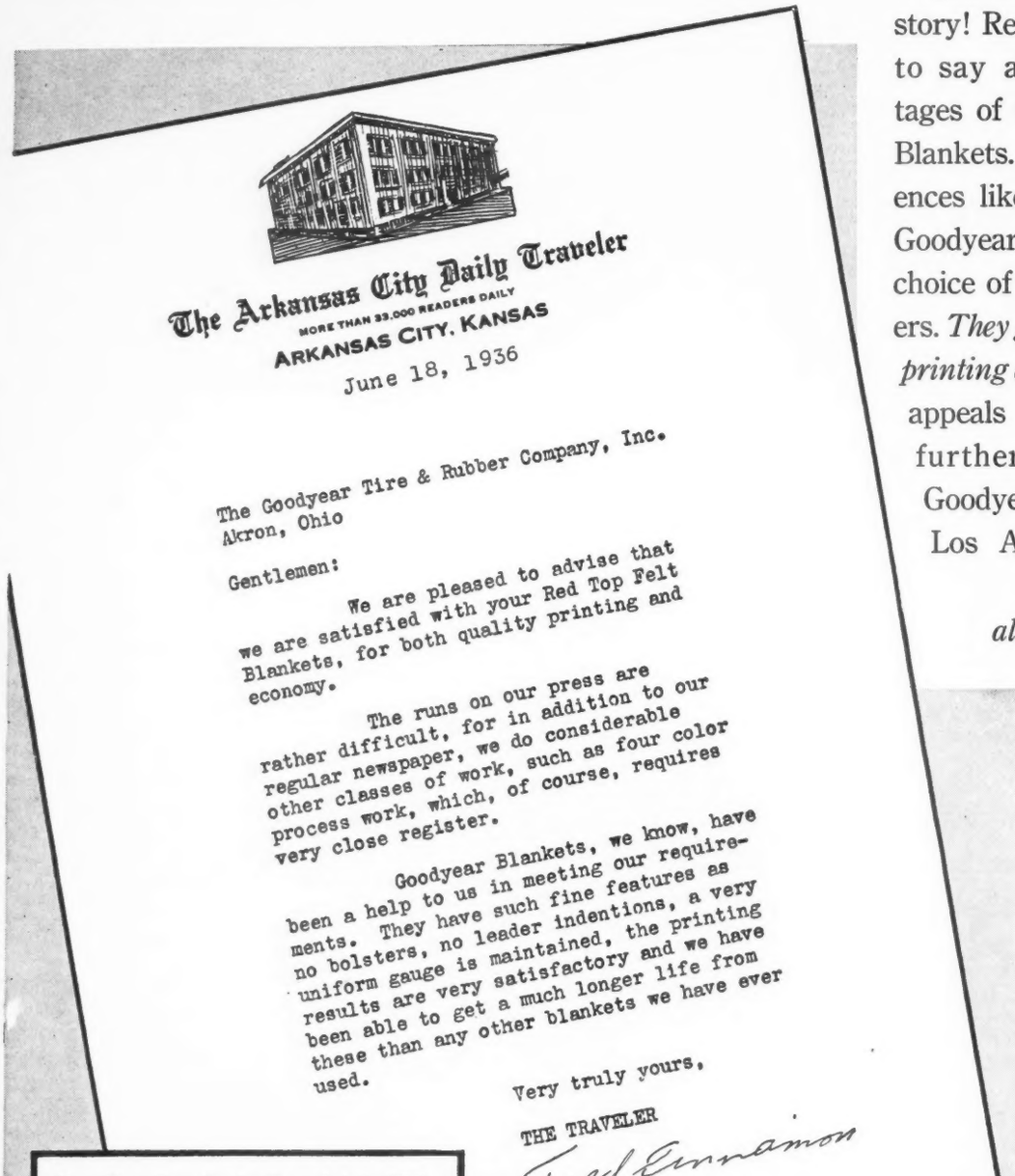
W. M. OUNGST
The Craftsman Press
Fort Smith, Ark.

DUOTONE

Example of tint pattern background design impressed in matrix paper on a job printing press previous to molding the balance of the design in the regular way. The method is described in Mr. Oungst's letter.

*Mechanical Superintendent, Morgantown (W. Va.) *Post* and *Dominion-News*.

"MUCH LONGER LIFE than any other blanket"



The Arkansas City Daily Traveler
MORE THAN 23,000 READERS DAILY
ARKANSAS CITY, KANSAS

June 18, 1936

The Goodyear Tire & Rubber Company, Inc.
Akron, Ohio

Gentlemen:

We are pleased to advise that we are satisfied with your Red Top Felt Blankets, for both quality printing and economy.

The runs on our press are rather difficult, for in addition to our regular newspaper, we do considerable other classes of work, such as four color process work, which, of course, requires very close register.

Goodyear Blankets, we know, have been a help to us in meeting our requirements. They have such fine features as no bolsters, no leader indentions, a very uniform gauge is maintained, the printing results are very satisfactory and we have been able to get a much longer life from these than any other blankets we have ever used.

Very truly yours,

THE TRAVELER

Fred Cinnamon

Fred Cinnamon

— and that's only half the story! Read *all* this user has to say about the advantages of Goodyear Red Top Blankets. Countless experiences like this explain why Goodyear Blankets are first-choice of America's publishers. *They give cleaner, sharper printing at lower cost!* If that appeals to you write for further information to Goodyear, Akron, Ohio, or Los Angeles, California.

Branches in all principal cities

Now You Can Equip Completely With
GOODYEAR PRESS-PROVED PRODUCTS

Goodyear Red Top Felt Blankets
Goodyear Rubber Underpacking
Goodyear Rubber Ink Rollers
Goodyear Press-Cutting Rubbers
Goodyear Wingfoot Air Hose
Made by the makers of Goodyear Tires

THE GREATEST NAME IN RUBBER
GOODYEAR

MORE NEWSPAPERS ARE PRINTED ON GOODYEAR RUBBER UNDERPACKING THAN ON ANY OTHER KIND

NOVEMBER, 1936
Volume 53 No. 2

PRINTING EQUIPMENT ENGINEER

Trade-Mark Registered U. S. Pat. Office

A Technical Publication for the Mechanical Executive Responsible for Printing Production, Equipment and Supplies in the Commercial, Magazine, Private Plant and Daily Newspaper Field

Established 1910

Member of Controlled Circulation Audit

Published Monthly

AT 1276 W. THIRD ST.
CLEVELAND, OHIO

Eastern Manager:

RUSS BIRCHFIELD
509 FIFTH AVE., NEW YORK, N. Y. PHONE VANDERBILT 3-5191

Western Manager:

E. P. BLOOMSTER, 232 E. ERIE ST., CHICAGO, ILL. Phone SUPerior 2444

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Spiral Binding Cl. U. S. Patents Nos. 1516932-1942026-1985776. Other Patents Pending.

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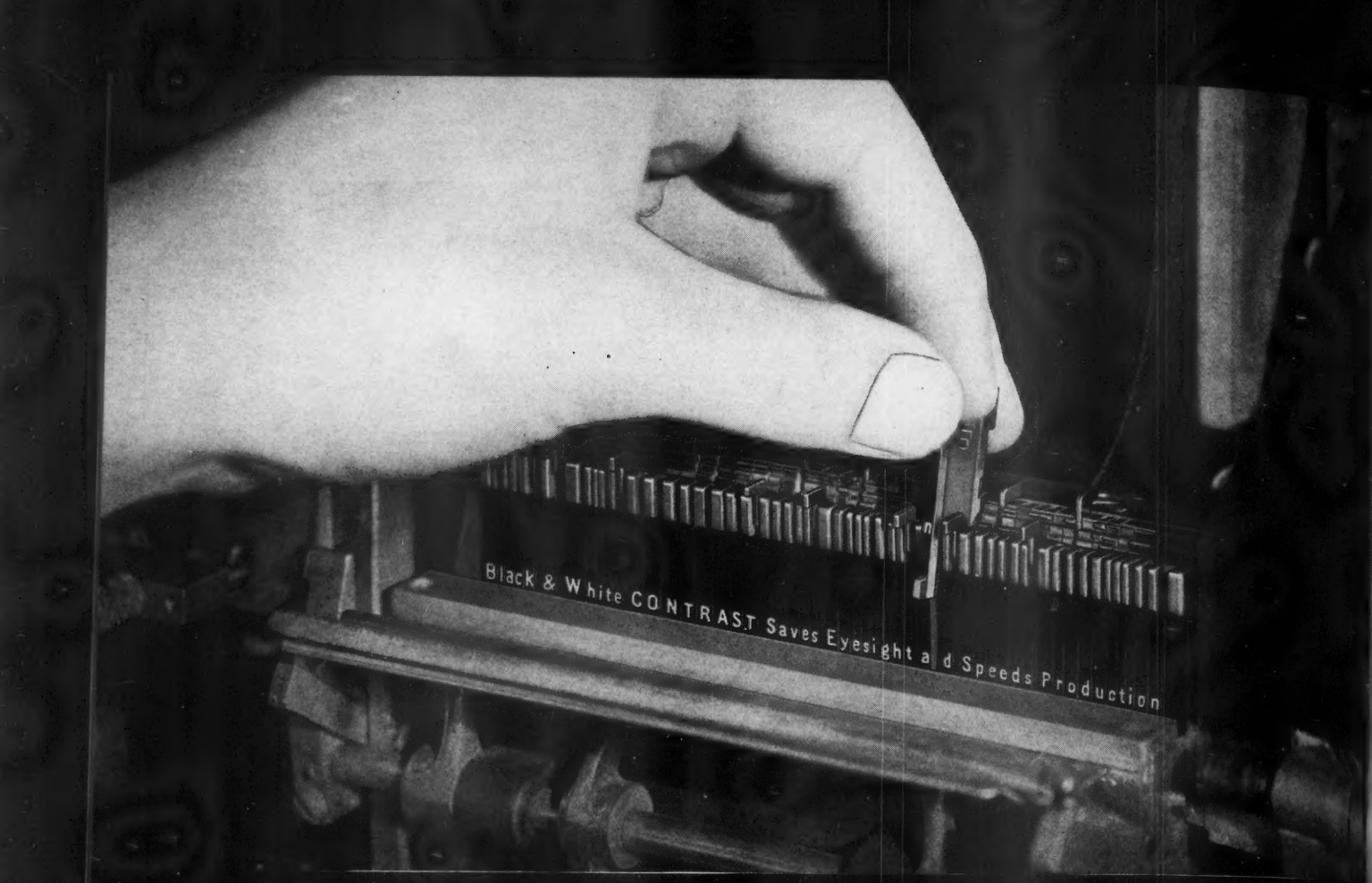

Black & White CONTRAST Saves Eyesight and Speeds Production

American-Statesman Plant

By RAYMOND BROOKS*

Modern Air-Conditioned Building Now Houses New Presses and Other Mechanical Equipment Used in Producing Daily Newspapers in Texas City

BUILT of stone, concrete and tile, the new and modern home of the Austin (Texas) *American-Statesman*, has been completed and is now fully equipped with modern machinery for producing regularly editions of the Austin *American* and the Austin *Statesman*. The new structure, three stories and full basement in height, is at the corner of West Seventh and Colorado streets. It stands clear from any other building, with light and air reaching it on all four sides. The two upper stories are being used as a regular office building. The newspaper plant is on the ground floor, with machinery, equipment, storage and some of its utilities, and an auditorium, in the basement.

Dimensions of Building

For a rapid sketch, the building size is 92 ft. on Seventh street and 128 ft. on Colorado, or a floor space of 11,770 ft. on each floor. Across the Seventh street front, a large business office stretches about 31 ft. deep, and the full 92 ft. wide. From this, seven steps lead up to a floor level a few feet higher, on which are the composing room, the editorial department, the stereotype department and other facilities.

One principal entrance leads into the business office from Seventh street. There is another principal entrance, with lobby, stairs and elevators, from the Colorado street side, between the business office and editorial department.

Editorial Departments

There is a news room, 46 ft., 4½ in. long, by 40 ft. wide, extending its longest dimensions on Colorado street, with a lot of fine windows lighting it up. Beside it, on the west side of the building, is the composing room; and north of it, at the corner, is the stereotype and other divisions of the plant.

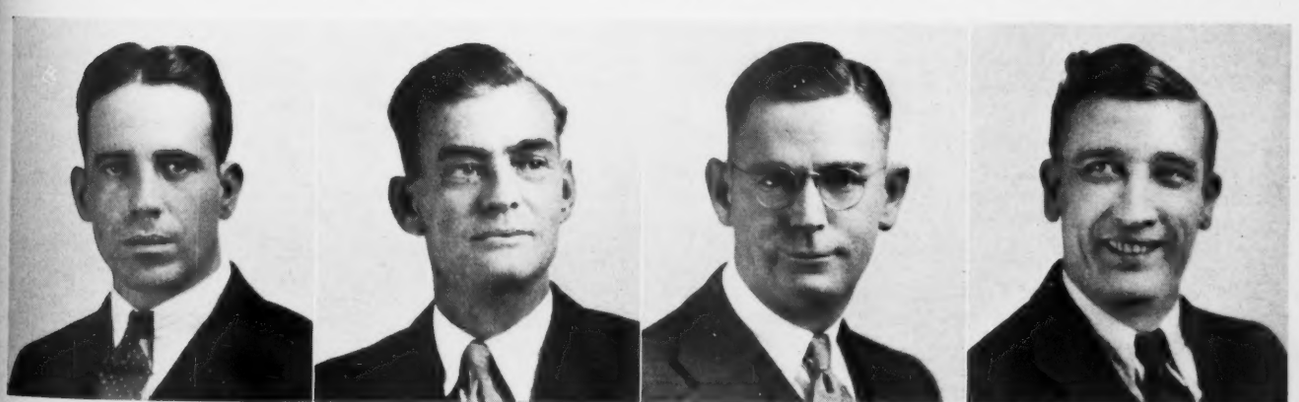
American-Statesman Staff.

Louis N. Goldberg, Business Manager of the Austin (Texas) American-Statesman, *in his office in the new building.*

The editorial office is closed in so that outside noises can't disturb the workers. A soundproof room has been built to house the news printing machines. Two commodious offices, leading from the news room, will be headquarters for editorial executives.

From the soundproof room where machines receive the out-of-town news by mechanized printer-type-writers, it is but a few steps to the news editor's desk. From the same desk, a simple straight-line process moves the edited copy to the distribution desk in the composing room where a battery of nine linotype machines are grouped where the light is just right. The composing room is 48 ft. and 8 in. long and slightly over 46 ft. wide.

Part of Mechanical Executive Personnel in New Plant of the Austin (Texas) AMERICAN-STATESMAN



WILLARD DYER
Composing Room Machinist

HORACE PHILLIPS, Sr.
Stereotype Foreman

LEWIS FAIRES
Pressroom Foreman

MERTON RUNDELL
Mailing Room Foreman

This is the new home of the Austin (Texas) American-Statesman. *Charles H. Page is the architect. Roland Moore, contractor, erected the building. The building is of stone, tile and concrete construction. It consists of basemint and three stories. The building covers a ground area of 92 ft. by 128 ft. or a floor space of 11,770 ft. on each floor. The room for the presses is made of triple layers of concrete and cork, and is damp-proof, soundproof and vibration-proof. Quarters have been provided in the basement for the storage of three carloads of newsprint at a time. Boilers and ventillating equipment have been built in on foundations especially designed for the purpose in the basement. Built-in cranes lift the rolls of newsprint on the press spindles.*

A 10 ft. clear space between the building and those to its west assures constant daytime light and plenty of air all the time.

The Composing Room

Across the north end of the building, designed to admit light and air by the alley to which the building extends, are half a dozen smaller rooms—one large corner space where the stereotype department does its part in the making of the papers. The mailing room is

W. F. Thompson, Foreman Composing Room, The American-Statesman, *Austin, Texas, at his desk.*

adjacent. A covered driveway permits trucks to back into the building to deliver the newsprint and to take the bundles and packages of newspapers for mail or truck distribution.

The Pressroom

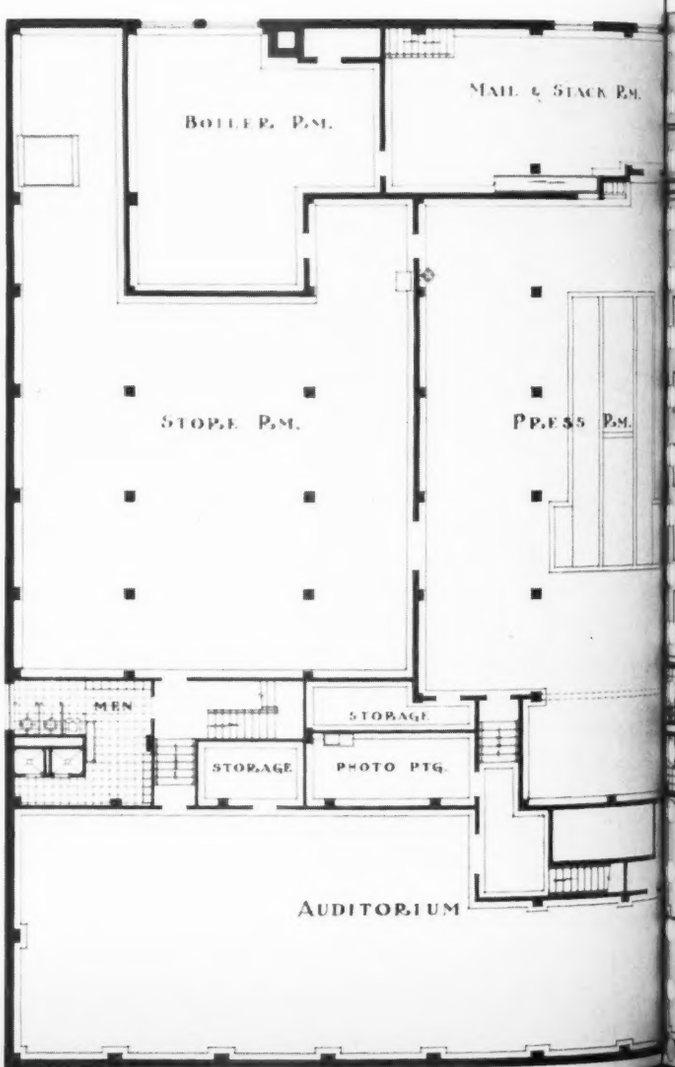
The "heart" of the newspaper plant, the presses from which the finished papers are printed, is housed in the basement, in a room especially built and prepared for it. In the old building, space prevented installation of more than one unit of the press, so that 16 pages was the most that could be printed at one run. When bigger papers, either Sunday or weekday, were printed, they were printed in two or more operations, and the sections put together by hand.

The pressroom in the new building houses two 16 page Duplex Tubular Presses of latest design. These presses are set on special concrete foundations, side by side, so any even number up to 32 pages may be printed at one time. The room for the presses is made of triple layers of concrete and cork, dampproof, soundproof and vibrationproof.

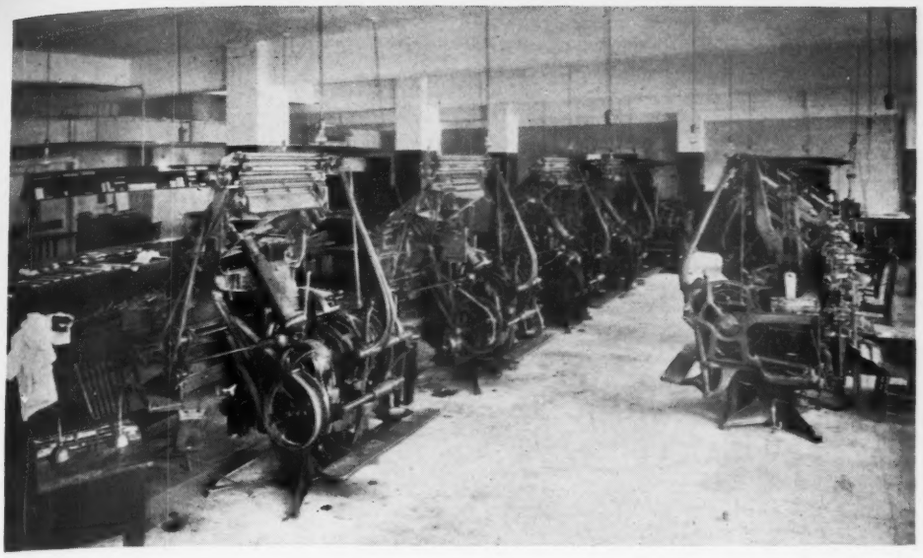
In the new building, two or three carloads of newsprint are delivered at a time and stored in the basement. Inclined ramps permit moving these rolls—weighing 600 pounds and more—readily to the presses, where built-in cranes lift them to their spindles.

Much machinery and equipment used in the complex business of printing a newspaper is housed in the basement. A special elevator has been installed to drop the cast page plates from the stereotype room to the pressroom.

Boilers and ventilator equipment are built on foundations and in spaces carefully arranged and designed for them.



At Left—*Floor plan diagram of basement in new plant of Austin* American-Statesman *showing pressroom in charge of Louis Faires where two new Duplex presses have been installed with complete color printing facilities. The plant is air-conditioned with washed air system. The auditorium at the front is used for public meetings.*



View showing linecasting machine in Austin (Texas) American-Statesman *Composing Room.*

PRESSROOM TECHNICAL NOTES

By Lewis Faires
Pressroom Foreman

In our pressroom we have installed two new sixteen-page Duplex Unitabular presses, the paper roll frames at one end and deliveries at the other facing the mailing department.

The press drives and control boards can be synchronized, and the presses are equipped with angle-bars and section transfer, making possible the cross association of one or more sheets or of whole sections from one press to the other making a capacity of thirty-two pages in one run.

One press is equipped with reversible cylinders and six auxiliary color fountains, giving us color on any page on that press, or on the comics, three colors and black on both sides of a four-page section, or two colors and black on four pages of an eight-page section.

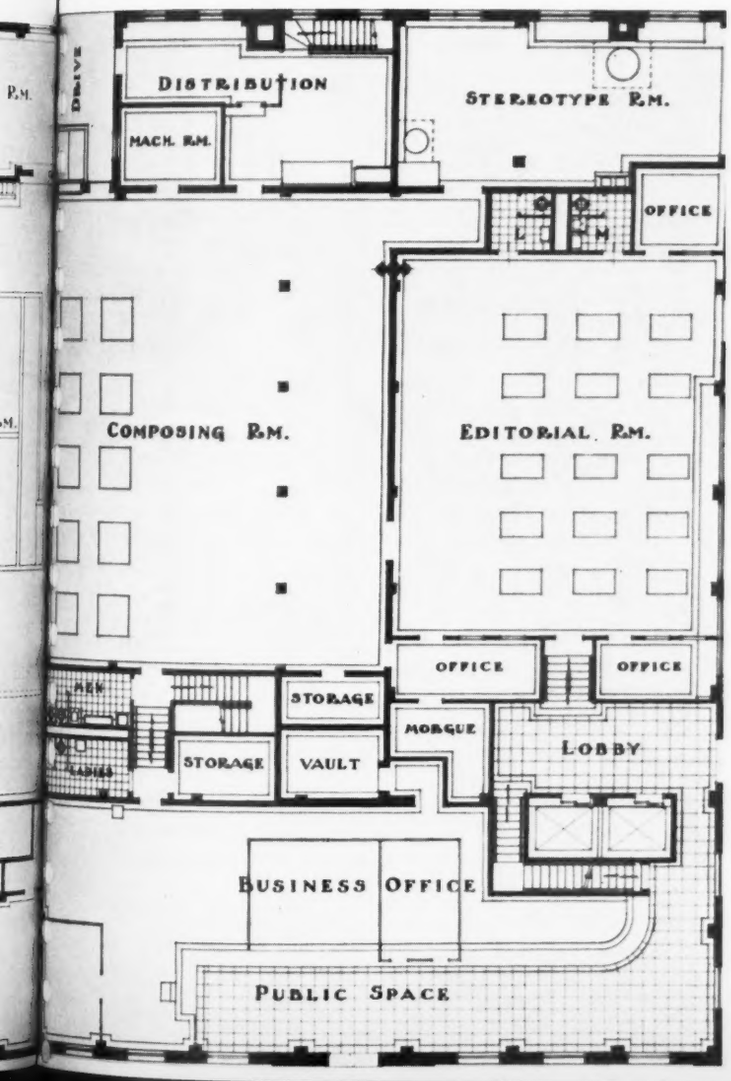
We are using a rubber blanket next to the cylinder and a monocork and draw sheet.

The presses are equipped throughout with Goodrich rubber rollers.

The power is furnished by General Electric full automatic control. Each press has a 60 h. p. drive with 5 h. p. starting motors.

The press foundation pits are completely insulated with cork so that there is no vibration in the rest of the building while the presses are running.

An air compressor has been installed in the boiler room with lines running to all mechanical departments.



STEREOTYPE DEPARTMENT

By Horace Phillips, Sr.
Foreman Stereotype Department

In the move into the new plant, the stereotype department installed new equipment to supplement other pieces used in the old plant.

Included in this new equipment are a new Stahi Scorcher, a casting box, and a router from the Duplex Printing Press Company.

Equipment transferred in the move includes a shaver, finishing block, and molding machine, all from the Duplex Printing Press Company; a flat-cast casting box, saw, and mat trimmer, all from the Goss Printing Press Company of Chicago. Three metal pots are in use. One is for pouring job work; one for pouring pigs for the composing machines and one for pouring plates. We have also a flat mat scorcher.

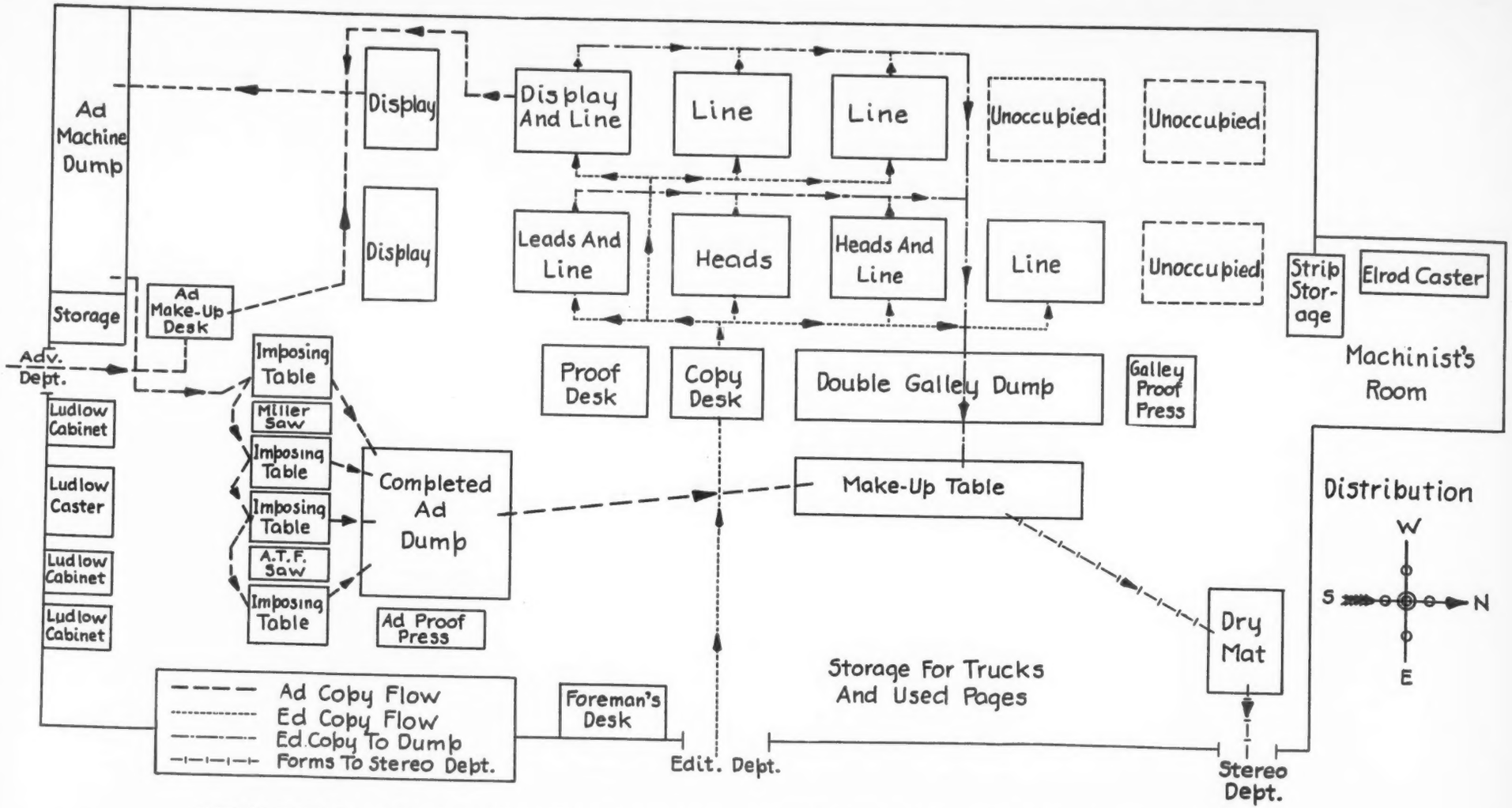
In addition to this operating equipment, two suction fans have been installed to ventilate the department properly, which is also air-conditioned.

THE COMPOSING ROOM

By W. F. Thompson
Composing Room Superintendent

The composing room of the new *American-Statesman* plant was designed with three major points in mind: (1) Efficiency of operation, (2) Comfort of employes, and (3) All possible elimination of noise. We have been successful in achieving all three of these objectives.

Two of our battery of nine Linotypes are used for display machines. Of the other seven machines three are used exclusively for line matter, one for heads and one for heads and line, one for display and line and one for editorial display and line. We find this an ideal arrangement because it enables us to put pressure on any particular class of composition which we may need. We have room for three more machines in case the demand is felt. In order to give maximum comfort to the operators while at their machines, chairs manufactured by



COMPOSING ROOM WORK FLOW CHART, AUSTIN (TEXAS) *AMERICAN STATESMAN*

Floor Plan layout (the original for which was furnished by L. E. Bauerfeind) in Austin (Texas) American-Statesman's new air-conditioned building. Since work flow schematic diagrams are always of interest to mechanical executives, Printing EQUIPMENT *Engineer is reproducing Composing Room Foreman W. F. Thompson's plan for routing work through the department. While it will be evident that the chart is not drawn to scale, yet the manner of operation can be comprehended readily. The separate handling of advertising composition is at the southern area of the room. The compact arrangement of the ad alley is interesting—it resembles an assembly line. Handling and transfer of material on the dump and the transfer of that material to the make-up table couldn't be improved. Criticism might be made of the location of the editorial matter proof press, but in locating it some place other than the position it now occupies, to conserve the proof press operator's steps, the delivery distance of a number of producing units (operators) would be increased. The plan of locating the strip material cabinet in the dividing wall between the composing and machinist's rooms (in the case of the American-Statesman) is an efficient arrangement, both for floor men and production convenience of the machinist. Building plans seem to have made it impossible to eliminate the narrow hallway between the composing room and stereotype department.*

Johnson Chair Company were purchased as part of the new equipment.

In the ad alley we use Ludlow equipment, one caster and three cabinets of mats and four Hamilton Steel combination imposing tables with type cases. This department also has a Vandercook No. 3 full-page size proof press, one Miller saw and one ATF saw. The non-distribution system is used, practically all type being machine or Ludlow cast with strip material from our Elrod caster.

In the makeup department we use a Hamilton steel makeup table having a cast iron top. This unit is complete with galley and material racks and with everything at hand for the makeup man. All forms are made up on this table and then transferred to the trucks for movement to the proof press and dry mat roller. We raised the floor about one-half in. on the east side of this makeup table in order to make transfer of forms easy.

Directly west of the makeup table, separated only by the necessary space for the workmen, is the galley dump which is an innovation, because it has a double or combination arrangement. The operators dump on the west side and as soon as the galleys are corrected they are reversed and pushed over to the east or makeup side, ready for the makeup men and eliminating unnecessary walking to and from galley dumps. The regular galley proof press is a Wesel electric machine. The floor under the entire hand side is insulated maple.

Our system of production, as shown in the accompanying workflow chart, is one which causes the work to flow or progress in a continuous line.

At the door leading into the advertising office is the advertising markup desk. After the copy is marked for the machines it is placed on files near the operators. As soon as the operators have completed the composition, the type matter together with the copy is placed on the ad machine dump which is directly south of the machines where the hand men pick it up, and after completing their work place the completed ad on the ad dump which is located due north of their imposing tables. Here it stays until it is read and corrected, when it travels due north to the makeup.

News matter comes from the editorial room which is located east of the composing room. It travels west to the copy desk, then west to the machines where direction is reversed as soon as the copy is turned into type which travels east to the galley dump and makeup. As soon as completed, the pages travel north and east to the mat roller, and then south to storage space for trucks and used pages. All work in this plant flows in the shortest possible straight line.

We consider the comfort of our employes to be rather important. Under satisfactory and comfortable conditions, it is natural for men to give better production. We have done everything possible to give our employes the best possible working conditions. Besides comfortable operators' chairs, we have installed Venetian blinds to reduce sun glare without hindering ventilation, and anair conditioning system. The washed air method insures a plentiful supply of pure, fresh air at all times. In hot weather the system keeps the composing room 10 or 12 deg. cooler than the outside temperature. If the weather is such that it is not necessary to cool or wash the air, then fresh air from outside is blown into the building through the system. In cold weather the air is heated by passing it through steam coils. The system as designed insures an even temperature with controlled humidity the year round.

In the basement there is a locker room with individual steel lockers for each employe, and adjoining is a tile and marble wash room with two tile showers and other facilities.

We have done everything possible to eliminate unnecessary noise in the composing room. The battery of composing machines rests on a concrete floor, and each is insulated with a pad of battleship linoleum.

We have also installed a call system for the machinist. A red light is mounted at the top of each machine which is visible from any position in the composing room. When the operator requires the machinist, he pushes a two-contact button which turns on the light. By pressing the button all the way in, a buzzer in the machinist's room calls his attention to the light which remains on until the machinist turns it off. However, the buzzer operates only during the time the operator is depressing the button. The system is a six volt affair, using conical auto tail lights and bell transformer.

Extending between the dividing wall of the composing room and the machinist's room is a cabinet of shelves for the storage of strip material. This cabinet is directly south, and within easy reach of the Elrod caster. Material is inserted by the machinist from the north and taken out from the south as may be required. This material is always available even though the machinist's room may be closed. The dividing wall is of ¼-in. mesh hardware cloth.

HOW TO READ A MICROMETER

EVERYONE knows what a micrometer looks like, but there are many men in all departments of the printing plant who don't know how to read one. In many cases this is due to lack of appreciation of the benefits to be derived from a general and frequent use of the tool.

Once you understand the principle it is easy and logical. The screw or spindle on a micrometer is threaded to move exactly one inch in exactly forty revolutions. Each full revolution moves the thimble along the barrel one fortieth of an inch. Four revolutions make one-tenth of an inch—so the numbers, 1, 2, 3, etc., on the barrel mean 100, 200 or 300 thousandths.

Intermediate markings, one for each revolution are one-fortieth of an inch, or 25 thousandths.

Each full revolution is further calibrated into twenty-five divisions around the thimble and these little marks give the instrument its capacity to measure distances invisible to the naked eye or touch. For if the full revolution of one-fortieth of an inch is further divided into twenty-five parts the new unit is one-thousandth.

So the major divisions on the barrel are one hundred thousandth each, the intermediate ones twenty-five thousandths, and the calibrations around the thimble cover one to twenty-five thousandths.

In using a micrometer, remember that touch is important. Get the feel of the instrument and bring the thimble to rest with about the same pressure each time. Ratchets on thimbles are seldom used by experts.

Never grip the micrometer firmly in your hand. The warmth and expansion can change the reading noticeably. Slip your little finger through the frame and spin the thimble with your thumb and first finger. This not only keeps the heat of your hand away from the frame, but leaves your left hand free to hold the object you are measuring.

Uses of the instrument are endless. For a micrometer gives a check on uniformity of photoengravers' plates, electrotypes, stereotypes, press blankets and packing, paper, slugs, and other materials that is possible no other way.

Trend in Gravure

By RALPH H. WINSHIP*

Plates Being Used Increasingly for Fine Illustrative Printing.

PHOTOGRAVURE, a photo-mechanical method of reproduction, produces rich velvety tones which are distinctive of the process. This is due to the manner of printing. As the plates or cylinders are etched intaglio, the quantity of ink transferred to the paper in the deeper tones may be considerable, while the lighter tones are represented by a diaphanous film of color. Because of the quantity of ink impressed on the paper, there is (especially in the middle and shadow tones) a certain amount of bleeding. By covering the screen line, the bleeding action blends the tones and gives the effect of a continous tone of almost photographic quality.

As photogravure (sheet-fed gravure) and rotogravure are almost identical processes from negative making to the etching, there still exists in the minds of many printers some confusion as to the capabilities of each process. This state of mind no doubt has reacted to the detriment of photogravure, as any mention of gravure is usually associated with the usual run of rotogravure, namely, the pictorial newspaper supplements. Rotogravure has invaded many new fields since the introduction of presses using cylinders ranging from 2 in. to 28 in. and even larger in width for printing on cellophane, silk, tissue, onion skin and even imitation leather and numerous other surfaces and stocks. While each has its own particular field, photogravure is being used increasingly as a medium of reproduction for the better grades of illustrative printing.

For rotogravure, the stock is furnished in rolls, thereby limiting the weight and surfaces to those obtainable in that form. By utilizing paper stock in sheet form, the photogravure printer is able to give the buyer of fine printing the choice of a great variety of weights and surfaces. Some very unusual and heretofore unobtainable effects have been produced in this manner.

While photogravure may be printed from either cylinders or thin copper plates, the trend is toward the plates for various reasons, among which may be mentioned the low first cost of the plates, the ease of handling during processing, and the storing of live jobs after a first printing. The cost of storing cylinders would be prohibitive in comparison.

One of the many fields that have turned to photogravure in the past few years is the Photographic Annual. A glance through the various annuals of England, France, Germany and various other countries as well as our own, will reveal a majority using this process for reproduction because of the near approach in tonal quality to the photograph itself.

While practically anything that can be photographed can be reproduced in photogravure, certain types of copy are more suitable than others and the preparation of copy for gravure is an item too often overlooked. As the quality of the finished work is dependent to a great extent on the quality of the copy furnished, care should be used in selecting photographs of as uniform quality as possible. Rough and unusual surfaces are to be avoided, as well as muddy and off-color prints. A smooth surfaced print is preferable, and if a little care is used in selecting and preparing copy beforehand a considerable saving in time can be effected, as well as an improvement in the quality of the finished result.

*Foreman, Gravure Dept., Beck Engraving Co., Philadelphia, Pa.

Photographic prints for reproduction in gravure should be of a soft, full-toned nature, rather than hard and contrasty. In the gravure process, a continous-tone negative is made in the camera, retouched, and a positive made on a photographic film or plate. During the two photographic operations there is a slight flattening at both ends of the photographic scale. Thus, in a contrasty print the highlight detail becomes bleached, while the shadow tones have a tendency to thicken, with resulting loss of detail. In a softer print, by judicious retouching on the negative and positive, this detail can be held in spite of the flattening effect.

Where several pictures are to appear on a page the prints should be obtained in their relative sizes whenever possible, and mounted in position, provided the photographs are uniform in color and quality. Art work can be added and the whole photographed as a single copy. Original negatives should be used whenever available, thus eliminating the aforementioned detail loss in rephotographing. However, when retouching must be done on the copy or several illustrations are to interlap or join one another, prints must be used.

As the gravure plate or cylinder when etched constitutes a complete form and no changes or moves can be made after etching, it is essential that a complete dummy of the job be placed in hand with the copy. This dummy should contain the correct sizes and positions of the illustrations and type matter. After the gravure positives and type matter are assembled ready for the etching room, a print from this form can be made and proofread, checking with the original dummy before proceeding with the etching. A few precautions along these lines will save many a plate or cylinder.

ESTABLISHES EUROPEAN BRANCH

The Matrix Contrast Corporation, sole licensees of the Percy L. Hill matrix contrast patents, has established a branch in London, England, to be known as Matrix Contrast Ltd., according to an announcement by Clifford Yewdall, secretary-treasurer. Mr. Yewdall returned to New York on the Queen Mary Nov. 2. The company's sales will be handled by Funditor Ltd. Trial installations are already being made in several large London newspaper and commercial printing plants. Offices of the new company are at 9 Southampton Street, New Holborn. Charles R. Hubbard of Boston has been placed in charge of the London service branch. It is expected that Mr. Hubbard will remain in London until he can train British service men.

Lon. S. Landers, president of Matrix Contrast Corporation, Charles H. Stout, vice-president, and Clifford Yewdall, secretary-treasurer, together with Norman Hurtley, F.C.A., London, and B. Mattlatzki of Funditor Ltd., are the directors of Matrix Contrast Limited.

LUEDERS PASSES AWAY

Frederick Henry Lueders, for over forty-two years identified with the sale of Seybold cutting machine equipment passed away on the morning of September 23.

He was known as "Fritz" to the trade throughout the whole United States. He joined the Seybold organization in April, 1893. Since 1920, most of his time was spent in Detroit and the Michigan paper mill district. His "big hat" which he invariably wore was for several score of years an identifying and welcome sight at trade conventions throughout the country. He was sixty-nine years of age.

HOW INSERT WAS PRODUCED

The vari-colored Huber ink insert appearing in this issue of *Printing* EQUIPMENT *Engineer* was printed in the plant of Davis, Delaney and Harrs, Inc., New York, N. Y., under the watchful eye of Frank Henecker, pressroom foreman. The colors were printed all at one time on a work-and-turn form on a 5-0 Miehle press equipped with a Dexter pile feeder, at a speed of 1400 impressions per hour. Because of the small fountain capacity per color, more than the usual stops were made for refilling. Extension delivery over gas flame without slip-sheeting was used. Roller vibration ¾ full on all rollers. Page fountain dividers were used and were lined with Layrite pads. The insert was planned and prepared by R ussell Bacon.

Teletypesetter—How It Works

By L. R. COOK*

Detailed Mechanical Actions Involved in Operation of Tape Perforator and the Automatic Line-Casting Machine Operating Unit

GENERAL—The printing trade as a whole is more or less familiar with the general principles of Teletypesetter equipment. For several years this advance in the typesetting Art has been accepted in commercial practice. The question in the minds of composing room executives and employees has long since changed from the skeptical "Will it work?" to the question: "*How does it work?*"

It is the purpose of this article to answer this question in a manner which may be followed readily and understood. Before proceeding with the mechanical portion, it might be appropriate to review very briefly the basic features of Teletypesetter apparatus. Modern linecasting machines, both Intertypes and Linotypes, normally used for straight-matter composition may be equipped with Teletypesetter operating units, after which they may be operated *either manually or mechanically*.

All features for manual operation are preserved. The keyboard with 90 character keys, spaceband lever, delivery slide handle, assembling elevator and its auxiliary matrix rail, etc., are all provided as usual so that the Teletypesetter may be regarded as supplementing rather than supplanting the valuable features of manual control.

Mechanical operation of the keyboard is controlled by means of a perforated tape. This perforated tape may be obtained in two ways, depending on whether the operation is "local," or "telegraphic" (or both). For local operation the tape is prepared locally on a Teletypesetter perforator, working from edited copy. For telegraphic operation the tape is received on an automatic telegraphic reperforator.

"Telegraphic" operation is now being used to a certain extent both here and abroad for wire-tape transmission of news reports; however, the Teletypesetter is more generally used at present as a "local" means of increasing production of linecasting machines and reducing the cost of straight matter composition within the individual newspaper plant. This article will deal primarily with the equipment as applied to "local" operation, and will cover the operating principles and construction of the perforator for punching the tape and the operating unit and associated accessories for controlling the automatic operation of the linecasting machine.

*Engineering Department, Teletypesetter Corporation, Chicago, Ill.

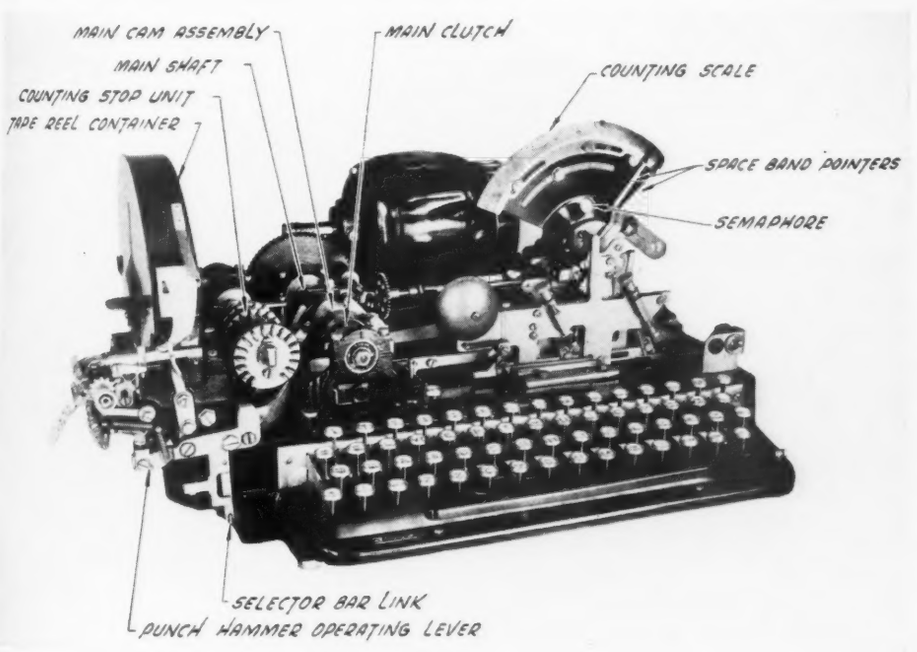


Fig. 1—Teletypesetter tape perforator with cover removed.

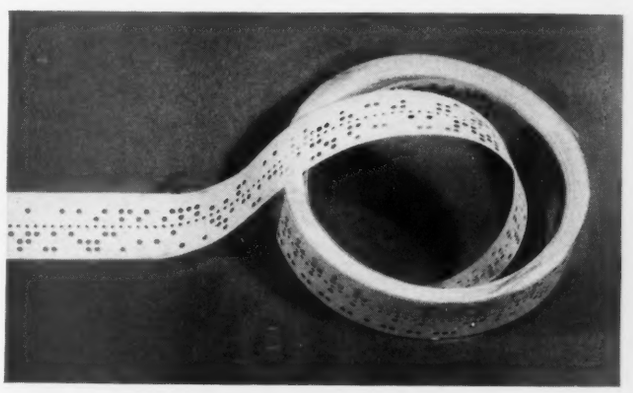


Fig. 2—Specimen of Teletypesetter perforated tape ready for insertion in the line-casting machine keyboard operating unit.

FIGURE 1 shows the Teletypesetter perforator without the cover and copyholder. It is portable, and can be operated on an ordinary office table; it is fully mechanical in its operating structures, and the whole unit is driven by a small motor with a cord which can be plugged into a standard wall or lighting receptacle. Figure 1 also shows the mechanical structures on top of the perforator base to give an idea of detailed operating components.

The tape perforator has three fundamental operations to perform: (1) It must punch varying combinations of a six-unit code in the tape for controlling the selection of matrices and spacebands, delivery slides, etc. (2) It must count the width of each matrix and carry a cumulative indication on a measuring scale in order to permit accurate line measurement, and (3) It must count the maximum and minimum thicknesses of each spaceband and carry a cumulative indication of total possible expansion in order to permit reliable justification.

The standard Teletypesetter perforator provides a sufficient variety of code perforations to permit automatic control of composition from a magazine of 90 channels; it provides a character counting value associated with each channel; and it is equipped with a spaceband counting and indicating mechanism which is capable of convenient and rapid adjustment to permit accurate measurement of any kind of spaceband in any kind of composition.

Convenient adjustments are provided on the perforator for making setup changes for varying column measures, etc.

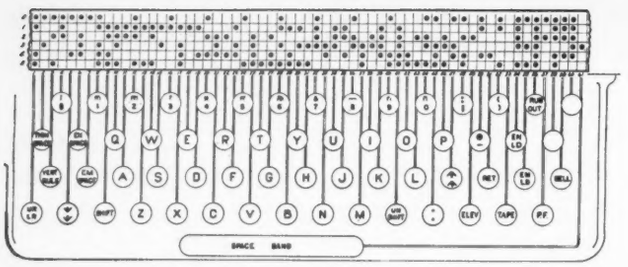


Fig. 3—Diagram to show the Teletypesetter keyboard layout with corresponding code chart.

Selecting and Perforating the Code Combinations

First, let us examine the structures employed in selecting and perforating the various code combinations. Figure 2 shows a specimen of perforated tape as prepared by the perforator, and Figure 3 shows the code combinations associated with each character. It will be noted that the perforator uses the same keys for both upper and lower case characters and differentiates between the upper and lower case by means of shift and unshift keys similar to the typewriter. On the typewriter an upper case character is printed by holding down the shift key and simultaneously striking a character key. On the Teletypesetter perforator, since the element of sequential remote control is involved, it is necessary first to strike the shift key and then to strike the character key. All subsequent characters will be selected from the upper case until such time as the unshift key is actuated. Thus the shift key of the perforator may be compared to the shift lock key of a typewriter and the unshift key of the perforator may be compared to a shift unlock key of a typewriter. Using the same key for both upper and lower case characters makes it possible to condense the keyboard into an area adaptable to complete touch system operation.

The reader's attention is now directed to Figure 4, that portion identified as the "Perforating Selector Bars." There are twelve perforating selector bars in all, two for each of the six code positions in the tape. Each pair of selector bars is notched with a code notching which determines the code to be punched for each key. The pairs of selector bars are mounted on Y-levers which rock in clockwise or counter-clockwise directions, depending on the particular key actuated and the code notchings of the particular pair of selector bars. The Y-levers are in turn connected to selector bar links and these in turn to vertical levers which position the respective punch levers either to the right or to the left depending on whether a hole is to be punched or not punched.

If the back selector bar of a pair is depressed, the Y-levers will rock in a clockwise direction, moving the selector bar link to the left and drawing the corresponding punch lever into perforating position. If the front selector bar of a pair is depressed (as determined by its code), the Y-levers rock in a counter-clockwise direction, moving the selector bar link to the right and positioning the associated punch lever so that no hole is punched.

This particular structure of perforating selector bars is the arrangement which long experience has indicated as the one which is easiest to operate and results in maximum operating margins. This type of structure provides an automatic interlock which blocks actuation of all other keys when one key is depressed, so that two keys cannot be actuated simultaneously.

The perforating is performed by the actuation of the punch hammer operating lever which is driven by the punch hammer cam on the main cam assembly. The main shaft rotates continuously, and each time a keylever is depressed a system of latches is tripped, permitting the main clutch to engage, thereby driving the main cam assembly through one cycle of rotation.

The tripping of the latches controlling the main clutch is performed by the actuation of the universal bar whenever any keylever is depressed.

Summing up briefly, the sequence of operation for perforating a particular code is as follows:

As a particular keylever is depressed, it strikes six of the twelve perforating selector bars (front or rear, depending on the code). These six selector bars are depressed, rotating their respective Y-levers and positioning their respective punch hammers in either perforating or non-perforating positions. The timing and adjustments of the perforator are such that this setup must be completed in the first part of the key stroke. Then, as the keylever continues past this point where the perforating setup has been accomplished, the universal bar is actuated and in turn trips the main clutch for one operation, resulting in a single actuation of the punch hammer operating lever as controlled by the punch hammer cam. The small feed hole in the center of the tape is perforated every time the punch hammer is actuated, regardless of the code combination.

Counting and Indicating Matrices of Variable Widths

Before explaining the mechanical structures for counting these variable character widths, it is first necessary to explain the counting principles involved.

The Teletypesetter perforator provides a unit counting system for measuring and indicating variable matrix widths. Thus the thinnest matrices: *thin space, period, comma, apostrophe, i and l* are counted as

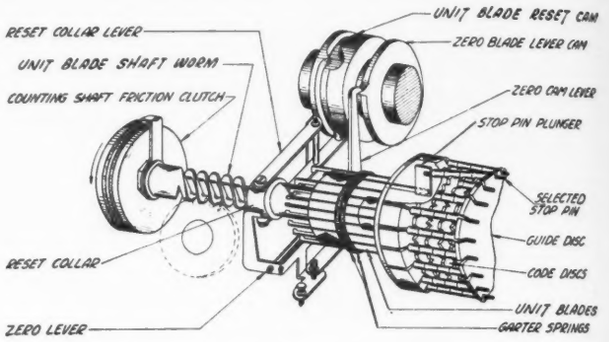


Fig. 5—Teletypesetter perforator character counting mechanism.

six units; *j, f* and *t* as seven units; capital *I* as eight units; *en space, figures, r, s, z* and reference marks as nine units; *c, e* and *o* as ten units; *a, b, d, g, h, k, n, p, q, u, v, x, y, fi, fl*, capitals *J* and *S* and *question mark* as eleven units; and so on, the largest matrices—*em space, em leader, em dash, m, M*, and *W*—being counted as eighteen units.

Matrices to be composed by Teletypesetter equipment must have their brass sizes graduated on the unit system. This is a definite requirement for successful Teletypesetter operation. The unit counting mechanism of the perforator is free from mechanical inaccuracy and the exact dimensional proportions of a unit font assure a precise and reliable measurement and indication of line length and justification.

Unit system fonts of matrices may be purchased from the regular matrix suppliers in point sizes varying from 5½ to 10 points. Unit system fonts do not differ typographically from corresponding non-unit fonts; thus a Teletypesetter-operated linecasting machine equipped with unit matrices may work alongside a manually operated linecasting machine equipped with corresponding non-unit matrices, and the composition from the two machines may be mixed throughout the newspaper.

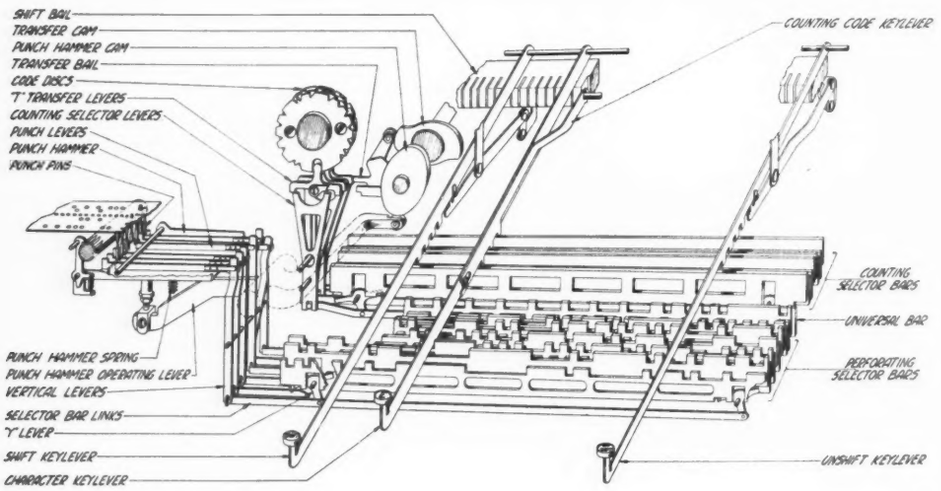
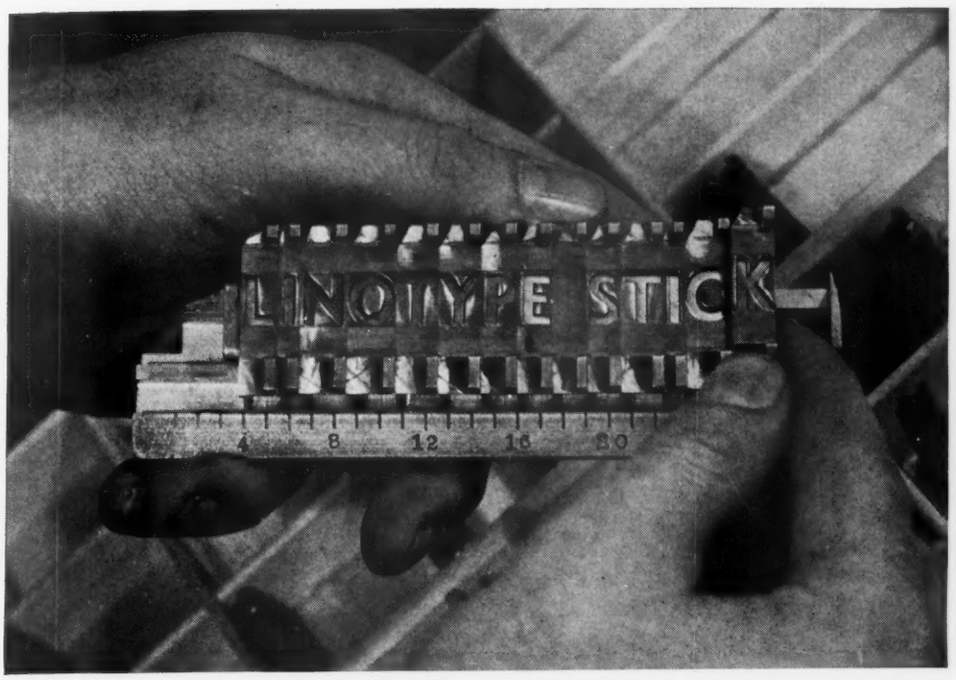


Fig. 4—Teletypesetter perforator detailed mechanisms for punching code combinations in the tape and selecting character counting values.

In order to select the various unit values and associate a particular unit value with each character, the Teletypesetter perforator again employs the principle of the permutation code. Instead of the six-unit code required for tape perforation, a four-unit code is employed for selecting a variety of different counting values. These counting values are assigned to cover a character counting range from five to eighteen units, inclusive, and also provide zero count selection for function keys such as shift, unshift, and those associated with ending a line.

The reader's attention is again direct-



Display matrices are set by hand and the line is then transferred to the assembling elevator.

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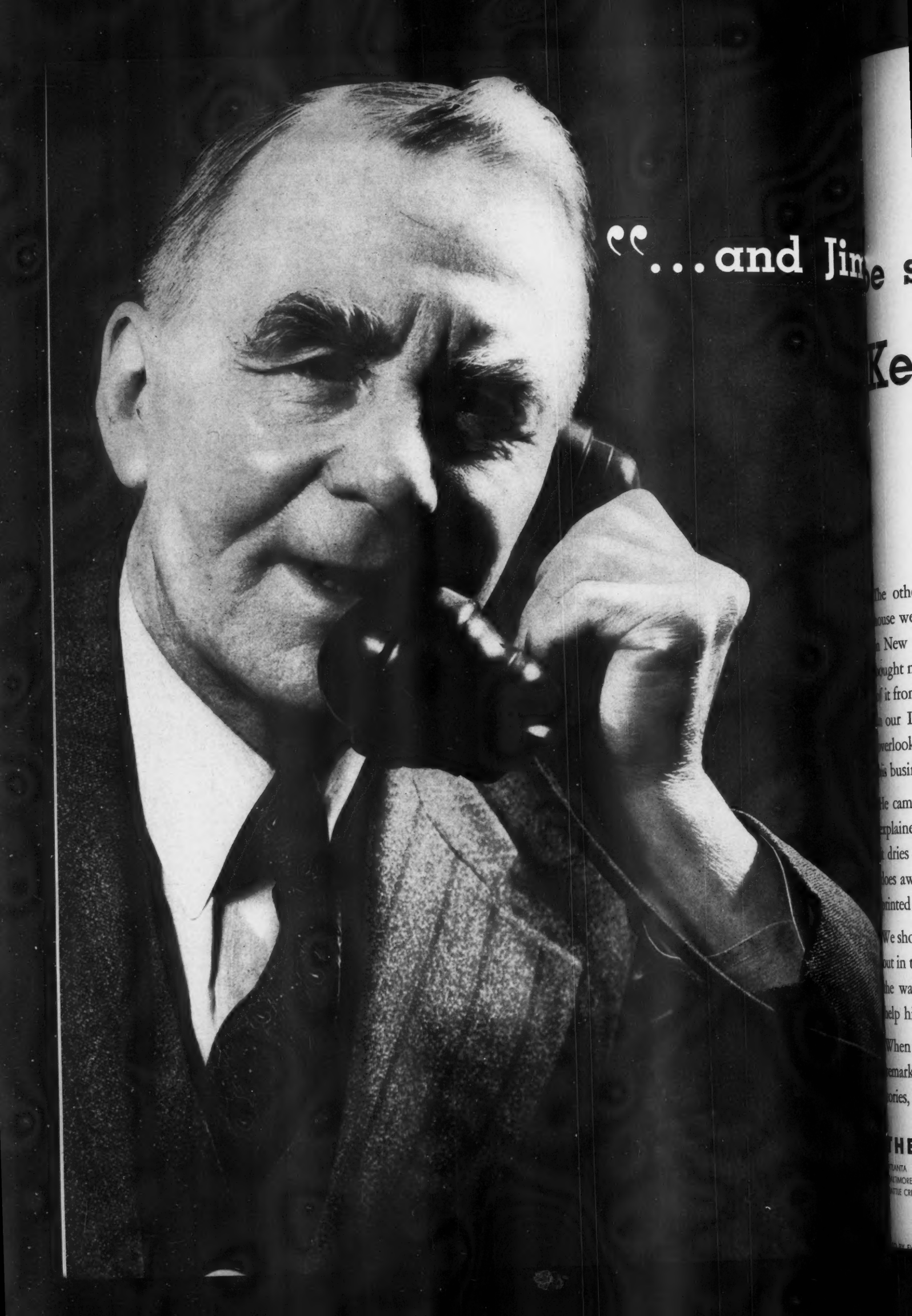
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N. P. E. A. Chooses Officers

The newly chosen officers for the National Printing Equipment Association, Inc., are given below. As reported in the October issue of *Printing* EQUIPMENT *Engineer*, the annual meeting was held in Cincinnati, on Tuesday, September 29. The newly elected officers are:

HARVEY D. BEST, *President*
THOMAS R. JONES, *Vice President*
JAMES S. GILBERT, *Treasurer*
JAMES E. BENNET, *Secretary*

Executive Committee:

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ed to Figure 4, that portion designated as "Counting Selector Bars."

The counting selector bar assembly consists of four pairs of bars, but in this case the bars are plain and the code notching is carried on the keylevers proper or on counting code keylevers attached to the keylevers proper. The reason for carrying the code on the counting code keylevers instead of counting selector bars may be traced to the shift and unshift feature. It is obvious that a different width indication should be provided for upper and lower case characters, and yet a single key is used for selecting both upper and lower case characters. Thus the shift and unshift keylevers are provided with attachments to the shift bail, and their respective actuations result in corresponding positions of the shift bail. These two alternative positions result in selective alignment of the counting code levers over the counting selector bars. Thus, when the shift keylever is depressed, the shift bail is rotated in such a manner that the counting code keylevers slide toward the rear of the keyboard and present a certain code notching to the counting selector bars; and the actuation of the unshift keylever causes the counting code keylevers to be drawn toward the front, thus presenting a different code notching to the counting selector bars.

Having selected the forward or backward position of the counting code keylevers by previous actuation of the unshift or shift keylevers, the operator proceeds to depress the particular character key. As this key is depressed, the code notching on the associated counting code keylever encounters and depresses four of the eight counting selector bars. This results in rotation of the respective Y-levers associated with the counting selector bar pairs and a corresponding positioning of four counting selector levers. As the operator continues to depress this keylever, the universal bar trips the main clutch, as explained in the preceding section, and the main cam assembly rotates through one operating cycle. At the same time that the punch hammer cam revolves to punch the tape, the transfer cam on the main cam assembly also revolves and actuates the transfer bail. On this transfer bail are mounted four "T" transfer levers. As the transfer cam revolves, the four "T" transfer levers are depressed against the four counting selector levers and are rocked in counter-clockwise or clockwise directions, depending on whether the upper extremities of their counting selector levers have been previously positioned to the right or left, respectively. The upper extensions of the four "T" transfer levers engage notches in four corresponding code discs, and these code discs are thus rotated clockwise or counter-clockwise, respectively, as their "T" transfer levers are rocked in counter-clockwise or clockwise directions. These four code discs carry a system of code notching, so that for each of the possible systems of positioning, there will be four notches in axial alignment.

Equally spaced around the peripheries of the code discs are sixteen stop pins (see Fig. 5). These pins are guided by a guide disc at the end of the code discs, and the pins are held by tension springs in a normal position resting against the notched peripheries of the four code discs. When any notches are in axial alignment, the particular stop pin for that position falls into the open slot. Thus each time the code discs are positioned, the selected stop pin drops into the open slot and the previously selected stop pin is cammed out into normal position.

The end of each stop pin fits into the notch of a stop pin plunger, and when a stop pin is selected its plunger is moved into the path of a previously positioned unit blade on the unit blade shaft.

The moving portion of the counting shaft which actually originates the pointer motion for each character is the unit blade shaft or stop blade shaft. This shaft is driven through a friction clutch so that it remains stationary when arrested by a stop pin plunger, resuming its rotation when a keylever is actuated casuing the withdrawal of the previously selected stop pin plunger and permitting the shaft to rotate until it is stopped by the newly selected stop pin plunger.

The worm on the unit blade shaft engages a gear which imparts this angular motion through a gear reduction to the counting pointer which moves across the counting scale. The unit blade head on the front end of the unit blade shaft is slotted, and each of the nineteen slots carries a unit blade or stop blade which is held in place by two garter springs and is capable of sliding from front to back in two detented positions. Whenever a keylever is actuated, several simultaneous motions occur on this unit blade head. First, a stop blade is pushed forward at the zero lever. At the same time any previously selected blade is drawn back to normal position by the reset collar, and immediately after this operation occurs, the unit blade shaft starts rotating under the influence of the counting shaft friction clutch. Of course, this shaft should only rotate through a certain predetermined angular position. This is where the selected stop pin and the associated stop pin plunger come into play. The unit blade shaft continues to rotate through a certain number of degrees (less than a complete revolution) until the unit blade previously pushed forward by the zero lever strikes against the previously selected stop pin plunger, stopping the rotation of the unit blade shaft. Thus to count a six-unit character, the sixth stop pin from the zero position is selected, etc. The basic structure of this particular portion of the Teletypesetter perforator has been used for a number of years for controlling the angular position of the type wheel of the Teletype high speed stock ticker, and in this perforator the same mechanism is employed to give a selectable angular motion for controlling the counting pointer. It may be readily seen that this type of mechanism gives an accurate cumulative reading of the pointer as successive characters are selected.

Fig. 6—Teletypesetter operating unit attached to the keyboard of a line-casting machine.

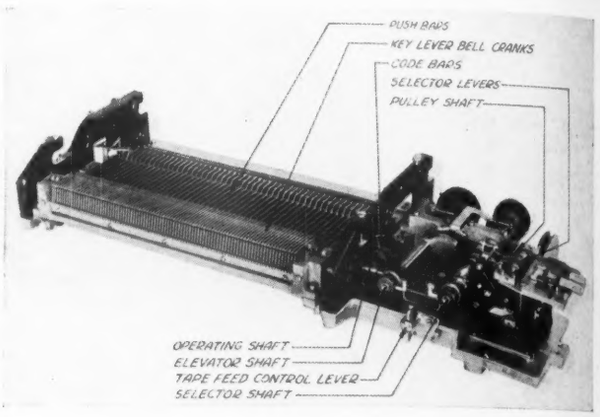
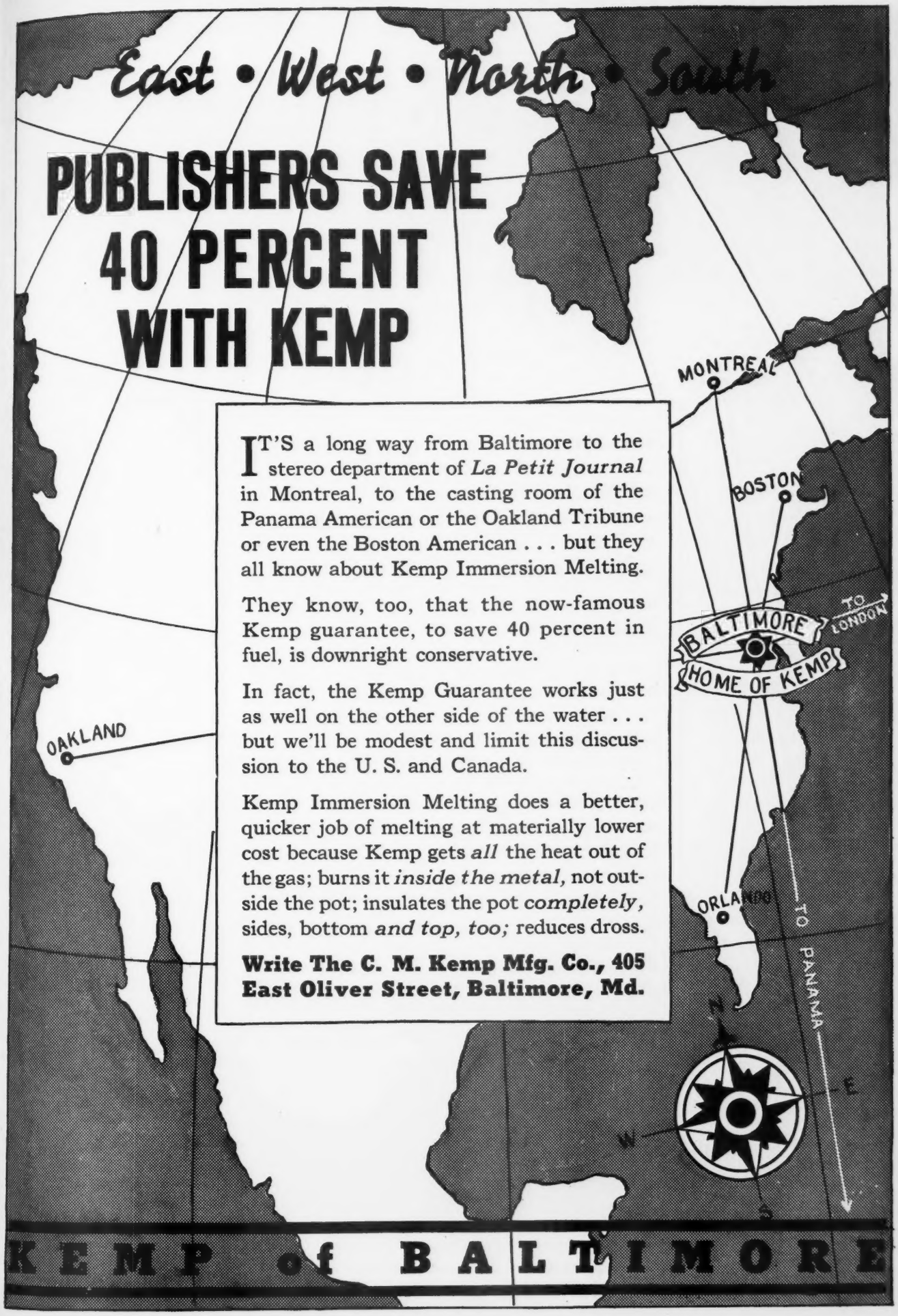


Fig. 7—View of Teletypesetter keyboard operating unit with cover removed.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Spaceband Counting and Indication

The counting and indication of spacebands is independent of the counting shaft. Each time the space bar is actuated for perforating the spaceband code combination, a pawl and ratchet arrangement underneath the counting scale is operated to advance the spaceband ratchets by one tooth. Each spaceband pointer may be adjusted to give different motions for a single actuation. This adjustment is necessary in order to make the perforator adaptable to handling different sizes of spacebands or to permit the proper adjustment when using the same spacebands in thin and fat type faces. The right-hand spaceband pointer is adjusted to give proper indication for the top of the spaceband, and the lefthand pointer is adjusted to give proper indication for the bottom of the spaceband. Thus, at any time the distance between the two spaceband pointers represents the cumulative usable spaceband spread in the line.

In order to justify a line, it is necessary that the matrix pointer, controlled by the motion of the unit blade shaft, be somewhere between the two spaceband pointers, that is, within the range of justification. This gives an exact indication as to whether or not the line will justify, which indication is, of course, essential to any remote control method of setting type.

Returning the Pointers at the End of Each Line

At the end of each line, when proper justification has been accomplished, the operator strikes the *return* (RET) key for returning the pointers to their positions for starting the next line.

The train of gears from the unit blade shaft serves to drive a friction clutch which holds the matrix pointer and positions it against a light spring tension which tends to return the pointer to its zero position. When the return key is actuated, this pointer friction clutch is opened and the pointer return spring goes into effect and snaps the pointer back to its zero position.

The ratchets which control the motion of the spaceband pointers are also driven against a return spring tension, so that when the return key is actuated the driving pawl is disengaged from the ratchet and the pointers are allowed to return to zero by means of a return spring.

As the counting pointers approach the condition for justification, contacts are closed and a lamp lights, warning the operator that the line is about ready for justification. When the pointers return to their positions for starting a new line, these lamp contacts are automatically opened to darken the lamp.

The Teletypesetter Operating Unit

Figure 6 shows a Teletypesetter operating unit installed on a linecasting machine. Figure 7 shows the Teletypesetter operating unit with the covers removed. The unit is fully mechanical and is driven by a belt from the distributor driving pulley on the intermediate shaft of the linecasting machine.

The Teletypesetter operating unit proper is a self-contained portable unit; it is standard for attachment to all varieties of modern straightmatter linecasting machines for 90-channel operation, such as Models A, B, or C Intertype or Models 5 or 8 Linotype. On such standard applications the operating unit proper is the same regardless of the type of machine equipped, whereas the difference lies in that portion of the Teletypesetter equipment which is permanently attached to the composing machine.

Before a Teletypesetter unit can be attached to a linecasting machine, it is necessary that a suitable keyboard assembly be provided for supporting and positioning the operating unit underneath the keyboard. When making a Teletypesetter installation, the regular linecasting machine keyboard assembly, including the keyboard posts, is removed and replaced by another similar keyboard assembly built especially for Teletypesetter operation. This new keyboard assembly includes suitably fitted keyboard posts and provides a keyboard which embodies all the features necessary for manual operation, as well as providing suitable linkages and supports for automatic control of the linecasting machine by means of a Teletypesetter operating unit. The keyweights, rubber roll and cam assemblies, 60 of the 90 keylevers (top four rows) and all of the keybuttons are transferred from the regular keyboard assembly (removed) to the new keyboard assembly at the time of installation.

Teletypesetter also supplies an assembling elevator which replaces the assembling elevator in previous use. This new assembling elevator includes the automatic linkages required for automatic control of the duplex rail for bold face selections.

A Teletypesetter-equipped linecasting machine may be converted instantly from automatic to manual operation, or *vice versa*, merely by

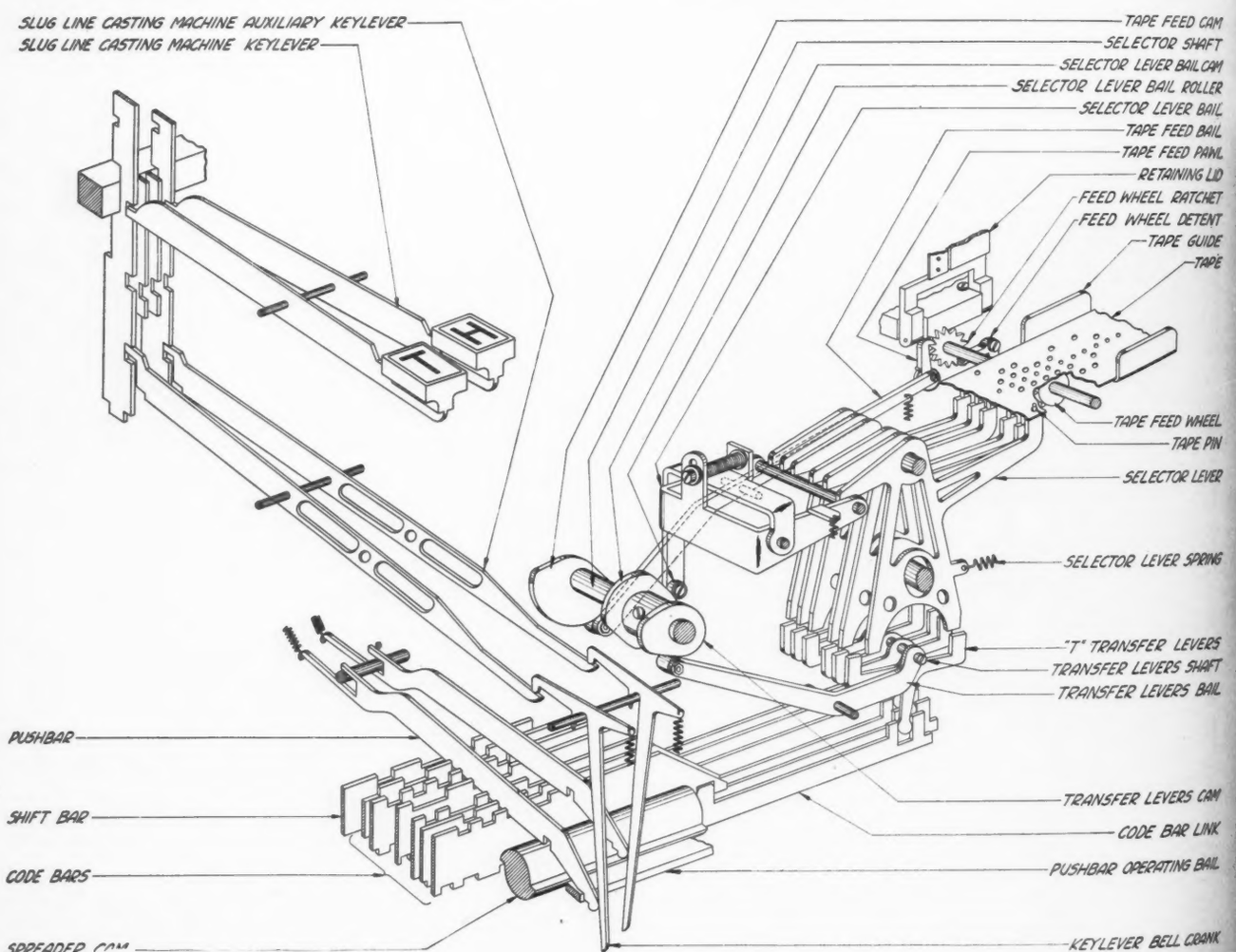

Fig. 8—Diagrammatic representation of Teletypesetter keyboard operating unit selecting mechanism. How the code combinations in the tape at the right side of the diagram are caused to operate the keyboard keybars for releasing the matrices from the magazine at properly timed intervals is fully explained in the text of Mr. Cook's article.

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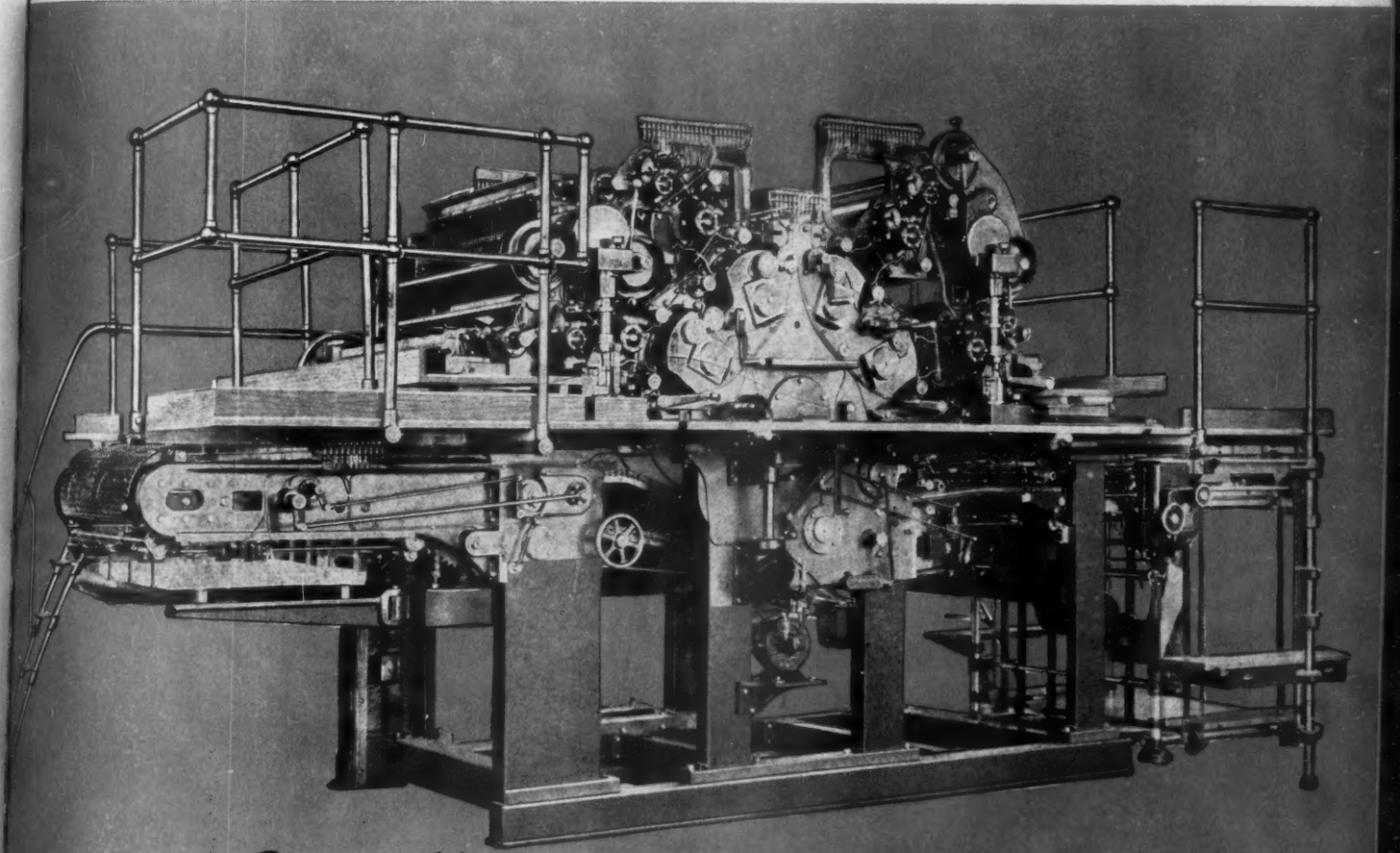

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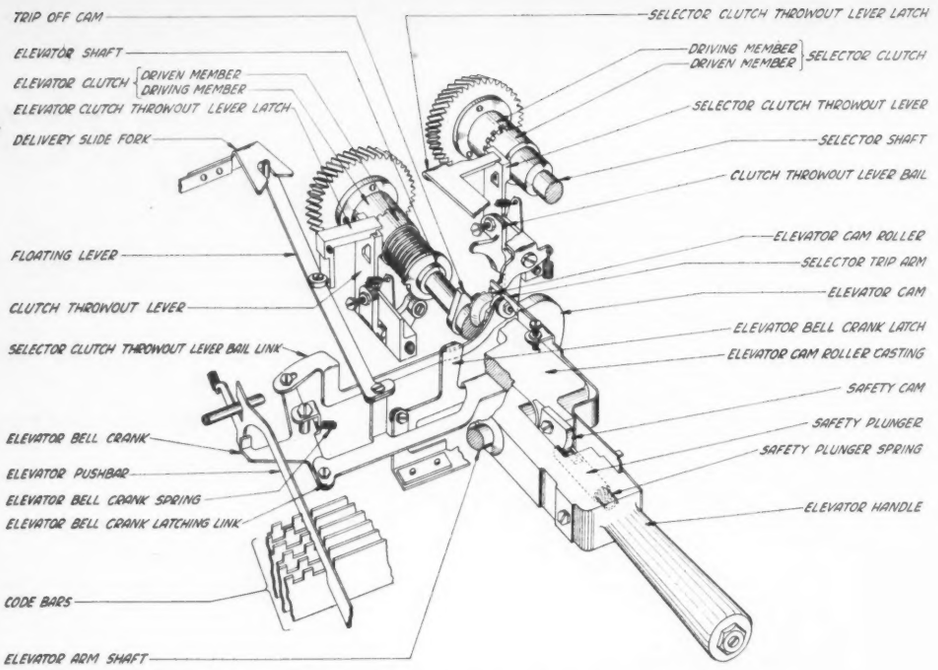

Fig. 9.—Teletypesetter Keyboard operating unit line delivery and safety mechanisms.

turning the tape feed control lever on the operating unit. All manual control features are retained so that when this lever is in the non-operating position the matrices and spacebands may be selected in the usual manner by depressing the respective keys, and the elevator handle may be operated by hand for delivering the line. This full manual control is possible either with the operating unit (proper) attached or with the operating unit (proper) removed.

The object of the Teletypesetter operating unit is to translate the code combinations in the perforated tape into the action of automatic operation of the linecasting machine, in the manner predetermined by the perforator operator.

The Teletypesetter operating unit receives successive code perforations as the previously perforated tape is fed along by the tape feed wheel; these various combinations are engaged by six tape feeler pins on the selector levers; and the positioning of these pins for each operation controls a mechanical selection process in the operating unit which results in a particular keyweight being lifted at the rear of the linecasting machine keyboard. From this point the normal linecasting machine processes of matrix selection ensue, *i.e.*, the keyweight which was lifted by the Teletypesetter trips its keyboard cam, the reed is lifted, operating the escapement and permitting the selected matrix to drop and be carried to the assembler.

It will be noted that insofar as matrix selection is concerned, the manual and Teletypesetter methods of operation may be regarded as alternative means of selecting and lifting keyweights, after which the normal matrix selection processes are identical, as provided in the linecasting machine proper.

Assembly of matrices and spacebands is the standard linecasting machine process except for the added refinement provided by the automatic duplex rail. This rail is capable of handling either solid or mixed lines, referring to the two matrix levels.

At the end of each line it is necessary for the operating unit to interrupt the processes of matrix selection and deliver the assembled line to the caster. When the end of line combination (elevate, ELEV on the perforator) is encountered by the tape feeler pins, operations follow which cause the tape feeding to be arrested so that no more matrices are selected; and if proper conditions obtain, the elevator clutch is engaged, causing the assembling elevator to be lifted to its upper position for delivery to the caster. From this point the normal linecasting machine operations for delivering an assembled line to the caster ensue, *i.e.*, the delivery slide latch is tripped, permitting the delivery slide to move to the left, carrying the assembled line to the first elevator for casting.

It will be noted that insofar as line delivery is concerned, the manual and Teletypesetter methods of operation may be regarded as alternative means of lifting the assembling elevator to its upper position, after which the normal line delivery, slug casting, and distribution processes are identical, as provided in the linecasting machine proper.

The safety features of the operating unit are based on the principle, "Do not deliver a line to the caster unless all conditions necessary for continued smooth operation are satisfied." This principle has been carried out mechanically as follows:

If any obstruction (such as improper assembly) is presented which interferes with normal travel of the assembling elevator to its upper position, the lifting force is absorbed by an adjustable spring yield construction in the special elevator handle. This yield action also causes a safety latch to be displaced which prevents renewal of tape feeding or selection by the operating unit when the elevator remains in or returns to its lower or assembling position.

If the delivery slide of the linecasting machine is not in its latched position at the right, ready to receive an assembled line from below (such as might occur in the case of a distributor stop, or momentarily in case the assembling speed tended to exceed the casting speed) a linkage governed by the position of the delivery slide will cooperate with a safety latch in the operating unit which prevents engagement of the elevator clutch. When the delivery slide reaches the correct position, the safety latch is automatically released, permitting engagement of the elevator clutch, which in turn causes the assembling elevator to be lifted to its upper position.

The operating unit is started in the following manner: The roll of perforated tape previously prepared by the perforator is placed on the center-unwind reel at the right of the operating unit. Since the inner end of the roll is the beginning of the tape, this inner end is placed under the tape lid of the operating unit. The feed hole of the tape is meshed with the tape feed wheel, which advances the tape for each operation and positions it accurately with reference to the tape feeler pins projecting from the selector levers. The tape feed control lever is thrown and the tape is advanced a step at a time.

Matrix Selection Processes

Figure 8 shows a skeleton view of the mechanisms involved in the control of matrix selection by means of perforated tape. The sequence of operations is as follows: The selector shaft starts rotating and the selector lever bail roller rides up on the selector lever bail cam, causing the selector bail to move clockwise, releasing the selector levers, which are then rotated counter-clockwise by the action of the selector lever springs. Thus the tape pins on the selector lever extensions are brought into engagement with the perforated tape. The selector lever springs have a very light tension, so that the pins are stopped where no holes are perforated in the tape but are allowed to pass through any open perforations. Thus by having certain pins pass through the holes and others stopped by the tape, the six selector levers are arranged so that their lower extensions are positioned to the right or left, respectively, for perforations or blank tape.

After these selector levers are thus positioned, the transfer levers bail is operated by the transfer levers cam, lifting the six "T" transfer levers up against the lower extensions of the six corresponding selector levers. This is similar to the "T" transfer lever assembly used for positioning the perforator code discs, except that in this case the "T" transfer lever extensions are used to move code bar links into left or right positions. These six code bar links are in turn connected to and serve to position six code bars which carry code notches on their upper and lower edges. For each arrangement of these six code bars, an alignment of notches may be opened all the way across from front to back so that a push bar falls into this slot due to spring tension. As soon as a push bar is thus selected, it is driven forward by the push bar operating bail and caused to actuate a keylever bell crank, which in turn depresses an auxiliary keylever, lifting the selected keyweight.

At the end of each selection interval all of the push bars are lifted away from the code bars by means of the rotating spreader cam. Holding these push bars away from the code bars for a certain interval permits the next selection process to follow, and permits motion of the code bars to their next arrangement.

These successive selections continue until the tape pins engage the code arrangement (elevate, ELEV on the perforator) which has been punched in the tape for ending the line.

Shift and Unshift Mechanism

When the shift or unshift code combination occur in the tape, the shift or unshift push bars, respectively, are selected. The action of these two push bars, instead of operating keylever bell cranks, causes the shift code bar to be pushed to the left or right, respectively. This shift code bar carries a system of code notching which supplements the code on the other six code bars in such a manner that all upper case selections are blocked for unshift condition and all lower case selections are blocked for shift condition. This may be illustrated further by stating that if this shift code bar were not provided, there would be two push bars selected for each character selection sequence, one push bar for the lower case character and the other for the upper

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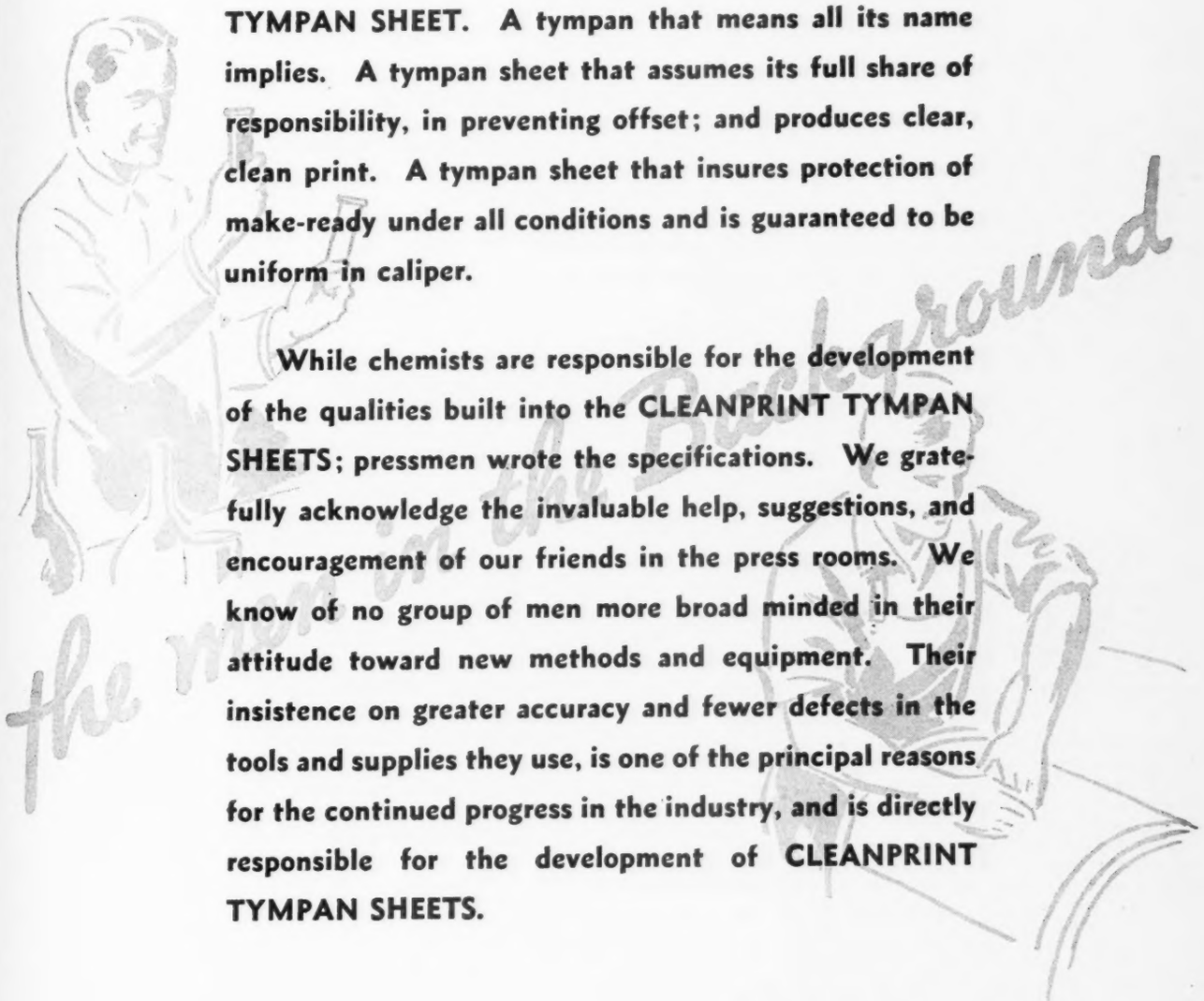
We announce with pride the new CLEANPRINT TYMPAN SHEET. A tympan that means all its name implies. A tympan sheet that assumes its full share of responsibility, in preventing offset; and produces clear, clean print. A tympan sheet that insures protection of make-ready under all conditions and is guaranteed to be uniform in caliper.



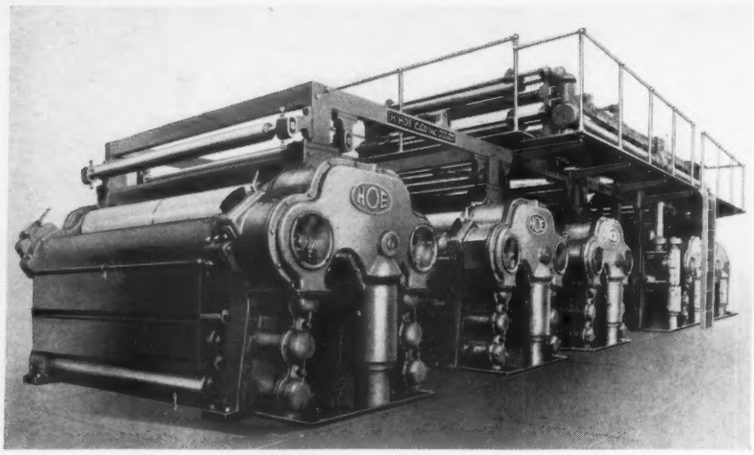
While chemists are responsible for the development of the qualities built into the CLEANPRINT TYMPAN SHEETS; pressmen wrote the specifications. We gratefully acknowledge the invaluable help, suggestions, and encouragement of our friends in the press rooms. We know of no group of men more broad minded in their attitude toward new methods and equipment. Their insistence on greater accuracy and fewer defects in the tools and supplies they use, is one of the principal reasons for the continued progress in the industry, and is directly responsible for the development of CLEANPRINT TYMPAN SHEETS.

Send Us Your Size for Free Trial Sheets

DUDLEY S. SMITH

504 BULLETIN BUILDING • PHILADELPHIA, PA.

RINT CLEAN WITH CLEANPRINT



NEW HOE INSTALLATION

A new Hoe 5-Unit Arched-Type Super-Production Press with a Double Former Super-Production Folder is being installed in the plant of the Charlotte (North Carolina) News *and* Observer *by R. Hoe & Co.*

The press will be mounted on extra heavy cast-iron substructure and arranged for underneath paper roll feed, with each paper roll position equipped with Hoe Three-Arm Paper Reels having electrically controlled Automatic Tension Devices and Full-Speed Pasters. The press is equipped with Instantaneous Plate Lock-up, Patented Automatic Pump System of Ink Distribution with crank shafts ink motion drive. This press will be similar to twelve units recently installed by the Richmond (Va.) News-Leader. *The Super-Production Folder is fitted with the newly developed Hoe tapered gear folding and cutting cylinder drive enclosed in oil tight housings.*

case character. Thus the shift bar in the operating unit corresponds to the shift and unshift keys of the perforator.

Line Delivery—Safety Features

At the end of each line the selector lever pins engage a code combination (ELEVATE) which causes the elevator push bar to be selected. The action of this push bar, instead of selecting a keylever bell crank, serves to control a system of levers and latches, which in turn cause the selecting clutch to be disengaged and the elevator clutch to be engaged. This particular system of levers and latches is also interlocked with the various safety features of the operating unit, so that proper conditions must obtain after the selector clutch is disengaged before the elevator clutch can be engaged. If all of these conditions are satisfactory, the elevator clutch is thus engaged, causing the elevator shaft to rotate. These mechanisms are illustrated in Figure 9.

As the elevator shaft revolves, the elevator cam roller on the end of the elevator handle rides up on the elevator cam, causing the elevator handle to be depressed, thus delivering the assembling elevator to its upper position for transferring the line of assembled matrices to the caster. The shape of this elevator cam is such that an ideal delivery timing is obtained. This takes into consideration the speed with which the assembling elevator is lifted, the length of time it must be held in the upper position in order to permit proper transfer, and the speed with which it is lowered to its normal position for receiving matrices.

The elevator handle is a compound structure with a yielding element so that if anything blocks the path or travel of the assembling elevator, the yielding element in the elevator handle comes into play and disengages the selector trip arm from its normal position, thus causing it to act as a safety device preventing reengagement of the selector shaft clutch and arresting continued operation of the unit. The yield effect in this elevator handle is adjustable by means of the variable tension on the safety plunger spring, so that the elevator handle assembly may be readily adjusted for different delivery conditions.

Duplex Rail Operation

Whenever the selector levers encounter the combination which has been punched in the tape for upper or lower rail, one of the rail pull bars is selected, causing one of the two push bar levers to be actuated. These push bar levers serve to actuate a system of linkages connected to the lateral rail on the assembling elevator. Thus when an upper rail combination is encountered, the lateral rail is moved to the right, and when a lower rail combination is encountered the lateral rail is allowed to return to its left-hand position under the control of the lateral rail spring.

INTERTYPE BIG TYPE

A new printed piece entitled "Big Type" is being distributed by the Intertype Corporation. It contains specimens of Intertype matrices in large sizes up to 60-point caps, including Vogue, Vogue Bold, Vogue Extra Bold, Cairo and Cairo Bold, Cairo Open, Bodoni Modern, Beton, and many other popular faces. Such big types can be cast on any Intertype, according to this new folder, in sizes beyond as well as within keyboard range, by means of the Intertype composing stick attachment. Photographs are reproduced to show how large Intertype matrices are assembled by hand, in a stick similar to a hand compositor's stick, and how the matrices are slipped into the machine for casting by means of a special tilting first elevator head.

Copies of this folder are obtainable from any Intertype office.

HEAVY DUTY ROUTER

For use in large newspapers, printing and engraving plants, the Dixon Pedestal Model Heavy Duty Router, is being manufactured by the Automatic Saw Sharpening Company.

Manufacturer states this machine is equipped with a 20,000 r.p.m. ball-bearing motor which can be lowered quickly and accurately by hand-wheel above the motor.

Radial arm is equipped with two-hand control to assure routing accuracy. The bed, which is 24 in. by 18 in., is equipped with a quick and positive locking device for plates. The convenient foot stirrup raises the front bar to clear the cutter from the plate. The machine is fitted with a lamp at the left side of the motor.

The equipment consists of Type-High Planer, Gauge, assortment of Router Bits and Cord, which can be plugged to any light socket.

See advertisement of page 90 or send for further information.

EASTERN NEWSPAPER SUPPLY CO.

The Eastern Newspaper Supply Company is now located at 9607 Thirty-fourth Ave., Corona, New York. Edgar A. Mills, Jr., is sales manager. This firm specializes in stereotype supplies of all kinds.

This illustration shows one of the tank trucks used by the Howard Flint Ink Co. to deliver newspaper inks to printing plants. This tank truck has a capacity of 12,000 lbs. (Nearly thirty drums of ink.)

Loaded at warehouse or factory, the driver stops first at a public scale and gets a certified weight slip before delivering the ink to the newspaper. After unloading, he returns to the public scale for another certified weight slip. These weight slips, "in" and "out," accompany the invoice covering the ink delivered.

The tank truck pictured above consists of a Ford chassis, a Freuhauf trailer, with Gar Wood tank and fittings. A pump is mounted on the chassis with a power take-off from the Ford engine, making it a completely self-contained piece of equipment.

The Howard Flint Ink Company has just recently made this service available in the Cleveland District. Similar service is also provided in Detroit, Chicago, New Orleans, Indianapolis, Houston and Denver by the Flint Company.

All You Need to Know

about the KLUGE AUTOMATIC PRESS is that it turns out a first-class job on anything printable, including die-cutting and embossing, at a lower production cost than any other press on the market. If you want to know how and why it can do this, ask the printer who operates one—have one demonstrated for you at any of the branches listed below—or write for our descriptive booklet "One Better"

A Better Press can not be built!

CAM SIDE VIEW OF THE KLUGE AUTOMATIC PRESS

Brandtjen & Kluge, Inc.

LARGEST EXCLUSIVE MANUFACTURERS OF AUTOMATIC PLATEN PRESSES AND FEEDERS IN THE WORLD

St. Paul, Minn.

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BOSTON	27 Doane Street	LOS ANGELES	1232 S. Maple Ave.
DETROIT	1051 First Street	ST. LOUIS	2226 Olive Street
CHICAGO	106 W. Harrison Street	DALLAS	217 Browder Street

CANADA: SEARS LTD., TORONTO, MONTREAL, WINNIPEG, VANCOUVER

New Printing Equipment and Supplies

Automatic Paper Drill

A new automatic paper drill, said to be a radical departure from other equipment of this nature, has just been announced by the F. P. Rosback Company. One of the features of this new drill, according to Mr. Rosback, Jr., is its ability to make open holes in one continuous operation with one handling of the stock. The drill is so designed that a slight pressure on the foot pedal automatically sets the machine drilling a round hole. Then, with one cut, it completes both sides of the slot. At the completion of each hole, the side guide automatically trips and the operator moves the stock into position for the next hole. The operator's hands do not leave the stock until all holes have been completed.

View of Rosback Automatic Paper Drill in which are incorporated new features.

Another feature of the new mechanism is that it drills the stock from underneath while the table, the guides and the stock remain in place. All of the working mechanism is under the table. Chips and cuttings fall directly into a special waste container beneath the table.

The Rosback Paper Drill is equipped to turn out all routine round-hole, round-corner and open-hole work. It drills round holes from ⅛ in. to $\frac{7}{16}$ in. diam. Side guide with any number of stops allows correct spacing of holes in a series. On open holes, all slots are flared to prevent the corners from turning up. A round-cornering knife, which operates the same as the open-hole cutter, is included with the new drill. An automatic paper clamp is also included as standard equipment.

The new Drill is being exhibited on the Printers' Progress Special train which is touring the country. Full information may be had by writing the F. P. Rosback Company direct or in care of *Printing* EQUIPMENT *Engineer.*

G-E Motors of New Design

A new design of riveted-frame squirrel-cage polyphase induction motors, in frame sizes of from one to fifteen horsepower at 1,800 r.p.m., has recently been placed on the market by the General Electric Company, Schenectady, N. Y.

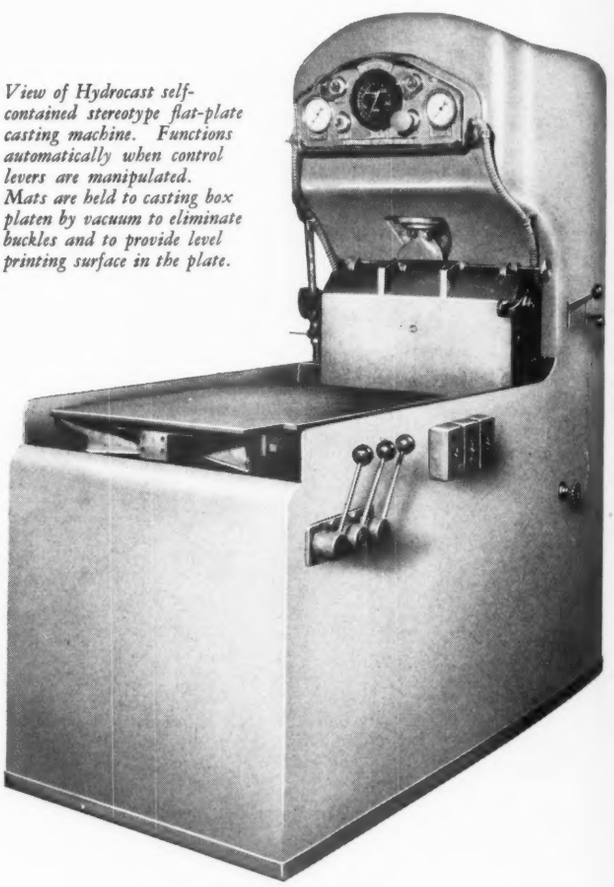
Co-ordination of design permits the different modifications of motors in the line to be used interchangeably for many types of power supplies and for various applications requiring open, sleeve or ball-bearing, enclosed, enclosed fan-cooled, splashproof, vertical motors, etc.

A new insulation system "built from the inside out" is employed for the stator-coil windings, which are of the random-wound type, with joints at the connections fused instead of soldered. Recently developed insulating materials provide an insulation assembly with high resistance to moisture and other common deleterious influences, such as mild acids, alkalis, oil, and abrasion.

A new riveted-frame construction and new end frames made of malleable iron, with integrally cast feet, contribute to the strength and rigidity of the motors.

Convenience features include: Two-part conduit boxes that provide ready access to leads and can be mounted in any one of four positions; knock-off ledges on end shields, permitting easy disassembly with ordinary tools; adequate wrench room for removing end-shield cap screws; ball bearings provided with pressure grease fitting and relief plug; sleeve bearings equipped with oil-filler gauge that can be placed on either side of housing.

View of Hydrocast self-contained stereotype flat-plate casting machine. Functions automatically when control levers are manipulated. Mats are held to casting box platen by vacuum to eliminate buckles and to provide level printing surface in the plate.



New Stereo Casting Machine

Announcement has been made by the Electro-Hydraulic Machinery Company of a self-contained and semi-automatic stereotype flat-plate casting machine. The machine will cast a maximum plate size of 24 in. by 32 in., in 5-pt., 11-pt., shell cast, type high or any intermediate thickness desired. Manufacturer states the machine will produce precision-surfaced, close-grained plates of maximum density and through assembling

THERE is no question but that BURGESS Chrome Mats make *better* printing plates.

•

CHROME MATS

A Laboratory Product Made in U.S.A.

•

BURGESS CELLULOSE COMPANY

FREEPORT, ILLINOIS

Pacific Coast Representative, RALPH LEBER, 426 Polson Bldg., Seattle, Washington

A271

suitable mechanisms into one unit, several hand operations have been eliminated.

Following are features of the machine:

The casting box platen is brought from horizontal normal position and closed against the bed in vertical casting position automatically and both bed and platen are locked automatically by hydraulic means. After the plate has been poured and has solidified and cooled sufficiently, the operator manipulates a control to restore the platen to its horizontal position automatically.

A vacuum pumping unit capable of exerting a maximum of 18 in. vacuum holds the mat down tightly against the casting box platen to eliminate possible "buckles" in the mat.

After platen has been brought to vertical casting position against the bed, a mechanism locks bed, platen, mat and side bars under hydraulic pressure. Manufacturer's idea here is that the vacuum unit causes mat to contact platen surface completely so that when hydraulic mechanism locks casting box under pressure the mat cannot buckle as would be the case were the vacuum equipment not employed.

The casting area of the bed is covered with a special coating which serves to eliminate "metallic chill" so that when metal is poured into the casting chamber the heat of the molten metal will be transmitted quickly to the special coating and through the cast iron wall of the bed. It is said an 11-pt. plate will be ready for removal from the box in 15 seconds.

The bed of the casting box is electrically heated to a thermostatically-controlled temperature of 320 deg. F.

Molten metal from a metal pot positioned above the casting box is permitted to flow into the casting chamber from an electrically-heated spout when a lever at one side of the machine is depressed to open a valve in the bottom of the pot. A special control lever, mounted at the side of the pouring lever, can be adjusted to any one of four positions so that when the pouring lever is depressed a suitable quantity of metal, according to the size and thickness of the plate, will flow through the pouring spout. For instance, if a 5-pt. plate is to be cast, the special control lever is set to permit the minimum amount of metal to escape through the valve from the metal pot. The other three settings of the special control lever, as stated above, are employed according to size and thickness of the plate to be cast.

As soon as the casting chamber has been filled with molten metal, the operator releases the casting lever and trips a foot pedal mounted just above floor level. This action of tripping the lever permits the casting box to drop downwardly a distance of approximately one-half inch before the cast has solidified. The sudden mechanical drop of the casting box causes the metal to set with a close-grained structure of maximum density.

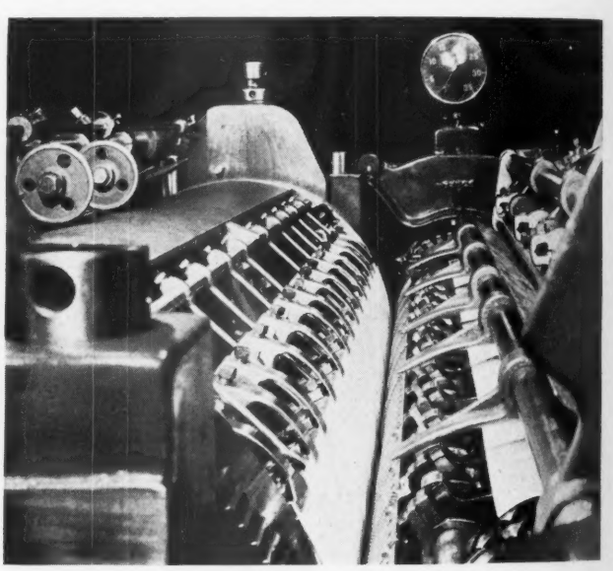
The steel metal pot is unique in construction. Its capacity is 1000 lbs. It is completely insulated. Buzzer recirculating immersion gas burners melt the metal. An adjustable Partlow thermostat controls the temperature of the metal. The pot is divided centrally into two compartments by a wall. One of the compartments serves as the melting chamber and the other compartment is called the pouring chamber having a valve in the bottom. The metal is charged into one of the compartments where it is melted by the immersion burner. As the metal melts it flows through an opening in the bottom of the dividing wall into the pouring chamber of the pot. In other words, the metal seeks its own level. The metal in the pouring chamber is not exposed to the oxidizing action of the air nor the liability of impurities caused by the melting of the metal in the adjacent chamber. The metal melting chamber of the pot is of a convenient height from the floor to permit charging. A metal step is provided so the charging can be done with the least exertion. In the illustration the charging side of Hydrocast is not shown.

The panel board is fitted with a number of instruments as follows: The white dial at the left indicates and regulates the pressure of the hydraulic pumping unit which operates and locks the casting box. The white dial at the right indicates and regulates the amount of vacuum to be exerted by the pumping unit. The large black dial in the center is the pyrometer for indicating the temperature of the molten metal. The hydraulic movement and locking of the casting box are checked by two lamps on the board (one for each clamp) to make certain the box is locked properly previous to pouring the plate. As the platen closes in against the bed, the hydraulic action is continued to lock the box, at which time two micro-switch contacts illuminate the lamps. When enough metal has been permitted to flow into the casting box to cast the plate, the molten metal contacts a small plug in the upper extremity of the bed. At this time the other pair of lamps are illuminated to signal the operator to release the pouring lever.

Miehle New Size Two-Color Press

The Miehle Printing Press & Mfg. Co. has announced new size Miehle 41 Two-Color Automatic Printing Press which will handle sheets ranging in size from 11 in. by 17 in. to 27 in. by 40½ in. It will print two colors in one operation at speeds ranging from 1500 to 2800, or the equivalent of 3000 to 5600 impressions per hour.

The press is equipped with a Dexter feeder of improved design. It is of the reloading type. Manufacturer states



For precision color work at all speeds, the impression cylinders and transfer are synchronized properly. A Tachometer shows press running speeds.

it will feed accurately at full speed capacity of the press. The platform can be reloaded while the press is running and the pile raised to feeding height by motor power. The forwarding mechanism has two separate arms which are adjustable for various sizes of stock. It is claimed wavy stock does not affect operation as each arm lowers independently of the other but move in unison when carrying the sheet to the forwarding rollers.

Four rollers cover the form without reversing on it. Each fountain is fitted with a blade which can be

(*Continued on Page 150*)

Challenge **Heavy-Duty** Paper Drill

Streamlined in design and operation, it handles more work easier and faster, measurably widens your field of profits. Patented multiple side guide permits drilling of up to six holes in as many positions at one setting. Hollow steel drills in sizes $\frac{1}{8}$ to $\frac{1}{2}$ inch. Minimum spacing between holes is zero. Automatic chip disposal. Adjustable lighting. Low cost attachments for slotting, slitting, V-slotting, round-cornering. Write for full data on the Style E Drill or on

OTHER ITEMS IN THE CHALLENGE LINE

Galleys	Portable Routers	Paper Cutters
Quoins, Keys	Imposing Surfaces	Paper Punches
Proof Presses	Plate Base Equipment	Proof Presses
Iron Furniture	Type High Machines	Angle Chases
Cylinder Presses	Pressman's Cabinet	Paper Drills

(See alphabetical listing elsewhere in this issue)

THE CHALLENGE MACHINERY CO.

GRAND HAVEN, MICHIGAN

CHICAGO, 17-19 E. Hubbard St. 238 200 Hudson Street, NEW YORK

PRICED RIGHT FOR ANY PRINTER ★

Rapid Drying of Inks

ON TRAVELING WEBS*

Report on Method for Immediate Drying of One or Two Colors to Make Possible Printing the Second Side in Four Colors

SINCE the introduction of Multicolor web perfecting presses some years ago, the major problem in high-speed magazine color printing has been to find a safe, practical, and economical method for the immediate drying of ink in either one or two colors, so that four colors might be printed on the second side of a traveling web without affecting the quality of the first-side printing.

Reference to Fig. 1 shows the operation of a Cottrell multicolor web perfecting press equipped with a traveling offset roll. The white web, in passing around the top impression cylinder, receives one or two colors from the top plate cylinders. The web, traveling at a speed of about 300 ft. per min., then passes to the second-side printing unit *in a one-second interval*, and receives successive impressions of yellow, red, blue, and black on the reverse side. The traveling offset web is fed around the lower impression cylinder, being interposed between the surface of this cylinder and the freshly-printed first side of the white web. The offset web then returns to the rewind roll. It is apparent that the offset web is actually a continuous blotter, and that it removes ink from the first side in the pattern of the second side. Because of the differential speed of the two webs, there is also a pronounced tendency to smear the wet ink.

In January, 1936, The Curtis Publishing Company announced the solution of this problem. The method has now been in production use for a number of years, with a total of almost three billion magazine pages printed by this new method in black and two-color. At the present time 37 of the 72 multicolor perfecting presses have been converted for the use of this method, and this number is being added to, as rapidly as possible.

*Presented by the Director of Research, Fred'k H. Levey Co., Inc. Abstract of paper presented at Graphic Arts Technical Conference, Washington, D. C., May, 1936. Discussion of the paper follows in abstracted form.

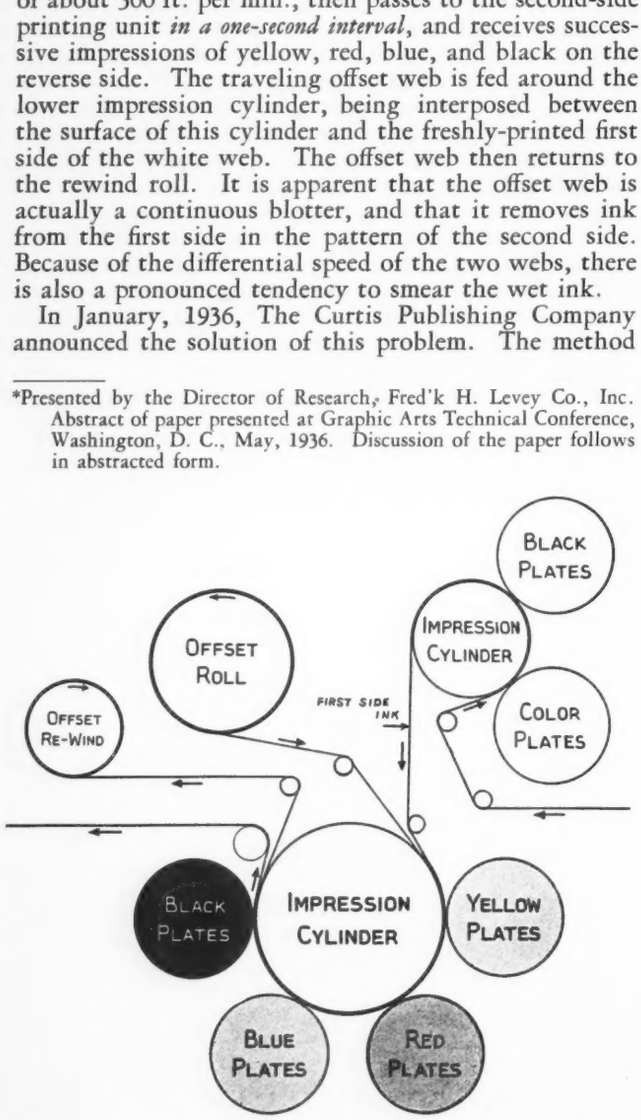


Fig. 1.—Diagrammatic representation of a Cottrell Multicolor Web Perfecting Magazine Press, showing web travel through press. This press, as arranged, prints black or two-colors on first impression and black-and-three-colors on second impression. A traveling offset "tympan" is introduced between the web which has received the first-side printing and the second impression cylinder to prevent offset and smearing of the freshly printed first-impression printing ink caused by the "beating" of dissimilar patterns of the four second-impression plates against the web and impression cylinder.

Consummation of Many Years of Labor

This method of printing was developed in the plant of The Curtis Publishing Company with the cooperation of the Frederick H. Levey Company. Pages have been printed in practically all possible colors, in all gradations from light screen to heavy block solids. By this method the first-side printing is substantially dry before the paper web reaches the four color printing unit.

A New Type of Ink Produced

The development of the new printing method called for the use of a new solvent suited to immediate drying by evaporation. The inks (1) Possess all of the desirable printing qualities of oil inks; (2) Do not dry on rollers, inking mechanism or plates, even if the press is shut-down for several hours; (3) It is possible to use all of the various shades of colors that are used in oil inks; (4) They do not attack the press rollers or metal parts; (5) They are readily washed off by ordinary solvents, such as kerosene; costly or dangerous solvents are not required; (6) The inks present no hazard from a fire or health standpoint; (7) They dry sufficiently fast with a moderate amount of heat so that the presses can be run with no speed loss; (8) They dry irrespective of weather conditions; (9) The engravers' proofs can be matched closely, because there is no guessing as to what the print will look like when dry, and (10) Because they are dried on the surface, the inks suffer little loss in brilliance by absorption into the paper.

Method of Threading Web

The white web, after passing around the top impression cylinder and receiving its first-side printing of black or two colors is led over the drying apparatus—first around the drying cylinder, then over two cooling rolls, to restore the paper web to normal temperature. The web is passed around the lower impression cylinder, receiving its four successive color impressions on the reverse side.

Reasons for Selecting Steam

Steam was selected as the most suitable drying medium for the Curtis installation because: (1) Constant temperature is maintained over the entire area of the web; (2) Full heat is immediately available when the press is started after a shut-down; (3) There is no danger of scorching the web even if the web remains stationary on the steam drum for a considerable period of time, and (4) It presents no fire hazard.

Drying by Gas or Electricity

However, special local conditions, such as low cost gas or electricity, may dictate the selection of either of these as a drying medium, in preference to steam. Application of the method to existing press equipment will

(*Continued on Page 84*)

Rouse

SEE IT ON THE PRINTERS PROGRESS SPECIAL

Labor-saving equipment means more than production saving. It means quick delivery and the ability to keep ahead of the competitive procession. It is essential where time is important and profits vital.

An understanding of the purposes and performances of the latest designs of ROUSE composing room equipment is necessary to the informed executive. Daily installations of the ROUSE Vertical Rotary Miterer and the ROUSE Band Saw will step up production in many plants. A brief description of the two machines follows. Complete information and prices will be mailed at your request.

ROUSE Vertical Rotary Miterer
Cuts 1000 Miters an Hour

Profitable everyday production, and reserve capacity, when needed, have created an unprecedented demand for the ROUSE Vertical Rotary Miterer.

Nearly twenty miters a minute may be cut on the ROUSE Vertical Rotary Miterer. There is no other method that approaches the production of the ROUSE Vertical Rotary Miterer in accuracy, and in the number of pieces that may be produced direct from strip material within a specific time limit.

The ROUSE Vertical Rotary Miterer actually does the work of hours in minutes. A comparison of its production with your present methods will be a revelation. A new circular showing representative miters and giving approximate time deserves your consideration.

New ROUSE Cabinet Model Vertical Rotary Miterer provides for strip material most convenient to the operator. Bench and Pedestal models are also available.

ROUSE Band Saw
Cuts a Full Galley of Slugs in 35 Seconds

One measure or a hundred different lengths, the speed is the same on the ROUSE BAND SAW.

No gauges are set. No clamps are tightened. No adjustments are necessary. Merely place the slugs on the table top, bring the aligning bar in position by a single movement, and the variable slug lengths are automatically selected. Push the switch button, and the slugs automatically feed to the band saw. When the slugs are cut the saw stops.

The secret of the ROUSE BAND SAW operation is a slug length indicator about the size of a period which automatically positions itself and casts on each slug. The patented ROUSE vise jaw, which replaces the left hand jaw, serves as its mold.

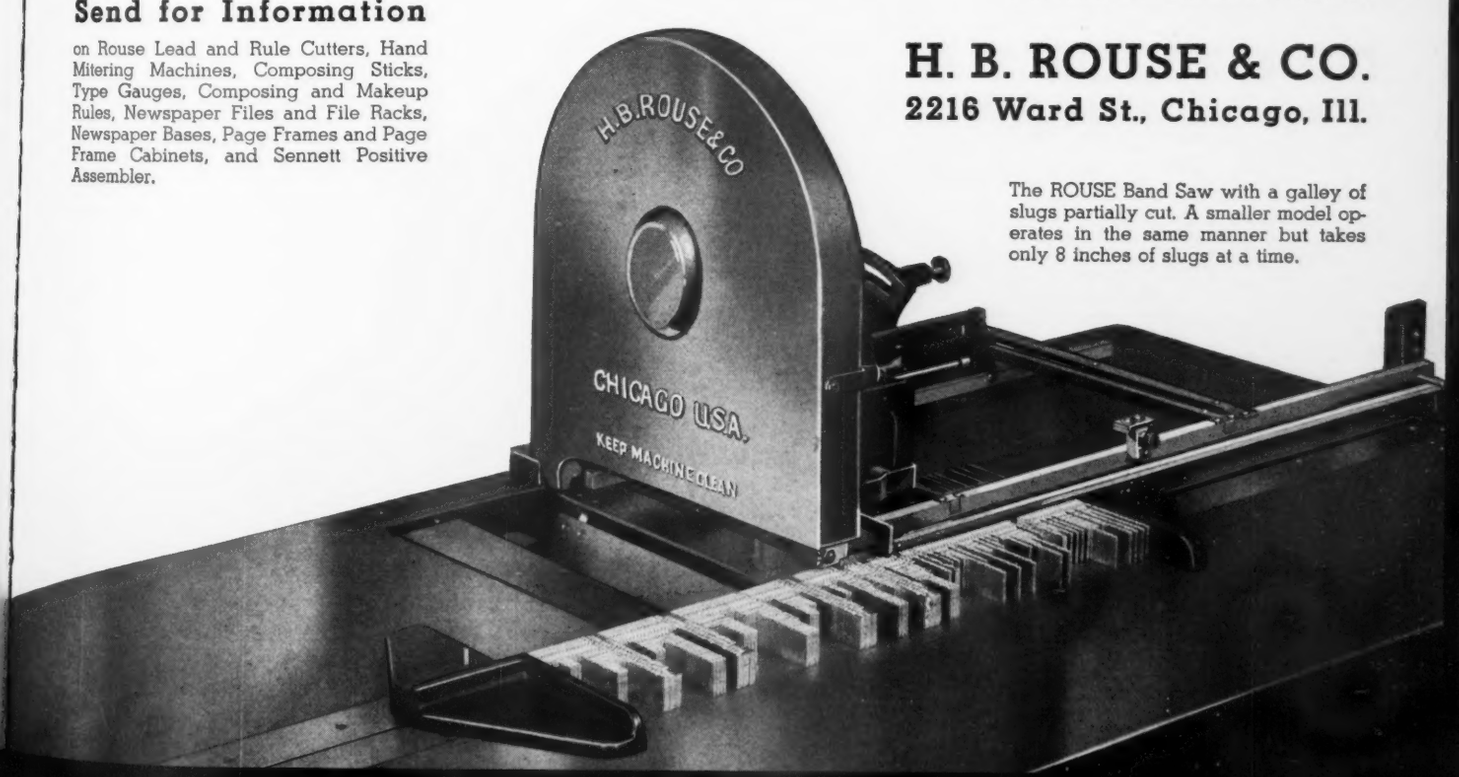
There are no extra operations — no reduction of typesetting machine speed — and no delayed slug delivery. The ROUSE BAND SAW is accurate, economical, high-speed equipment that has proved its value in hundreds of publishing and printing plants. The proof awaits your request.

Send for Information

on Rouse Lead and Rule Cutters, Hand Mitering Machines, Composing Sticks, Type Gauges, Composing and Makeup Rules, Newspaper Files and File Racks, Newspaper Bases, Page Frames and Page Frame Cabinets, and Sennett Positive Assembler.

H. B. ROUSE & CO.
2216 Ward St., Chicago, Ill.

The ROUSE Band Saw with a galley of slugs partially cut. A smaller model operates in the same manner but takes only 8 inches of slugs at a time.



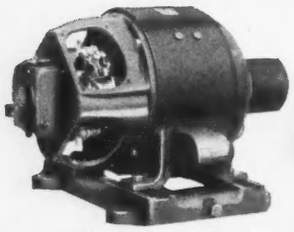
GENERAL ELECTRIC

General Office—SCHENECTADY, N. Y.

SALES AND SERVICE BRANCHES IN THE PRINCIPAL CITIES

COMPLETE A.C. AND D.C. EQUIPMENT FOR THE PRINTING PLANT

Direct Current Constant Speed and Adjustable Speed Motors, Alternating Current Motors Including Constant Speed and Adjustable Speed 2- and 3-Phase, Single-Phase and 3-Phase Brush Shifting Motors. A Complete Line of Magnetic Type Constant Speed and Pre-set Speed Control for All Motors, Covering General and Special Applications, Also Complete Line of Push-Button Stations, Limit Switches, Signal Stations and Other Accessories.



Typical Direct Current Motor

Wound Rotor Induction Motor

General Electric manufactures a complete line of general- and special-service A.C., and D.C., constant- and adjustable-speed motors to fit the power needs of every type of drive. Specify that your pressroom be electrically equipped throughout by General Electric—and from one end to the other, every motor, every controller—every piece of electric equipment will bear the G-E monogram—the symbol of unit responsibility and the mark of dependability.

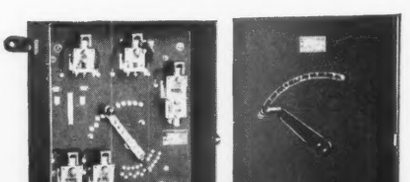
D. C. CONTROL

For control of machines such as large offset presses, color presses, bag machines, etc., which require high torque for starting together with slow-down control, General Electric recommends the CR6344-A1 controller. Jog-reverse operation may be obtained in a similar-purpose controller designated as CR6344-B1.

CR6344-B1

For Single-Phase Service

The G-E Type BSR single-phase, brush-shifting motor, together with suitable brush-shifting controller (both illustrated) is a perfected drive for small job presses requiring ¼ H.P. to 3 H.P. This motor has a wide speed range even at light loads, with good economy at all speeds. It is most effective when used with the type of G-E control illustrated, which gives a ready indication of speed and permits easy resetting for register work.



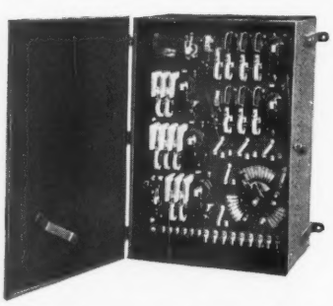
CR6341-D2

The CR6341-D1 type controller is used for controlling such machines as small rotary presses, waxing machines, and cutting and creasing machines, requiring variable-speed operation and slow-down feature. The CR6341-D2 controller is similar to the D1, but has the additional jog-reverse feature.

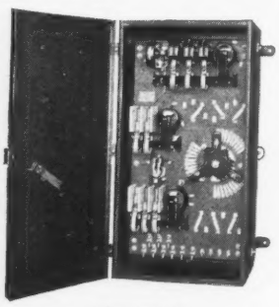
CR2940 push-button stations as illustrated are available for use with semi-magnetic and magnetic—either A.C. or D.C.—printing press controllers. Located on the press these push-button stations bring greatest flexibility and convenience of operation.

A. C. CONTROL

G-E Type CR6133 controllers are recommended for automatic job presses, flat-bed presses, lithograph presses, offset presses, waxing machines, small rotary presses, and similar machines requiring high starting torque, slow-down, job-reverse, and automatic quick-stop. Horsepower range 1 to 15.



CR6133-P5—7½ H.P. to 15 H.P.



CR6133-C3

For medium or large flat-bed presses, lithograph presses, cutters, creasers, and small rotary presses or machines requiring the slow-down feature, specify the CR6133-C3 Controller, with or without high starting torque. Horsepower range is 1 to 15.

The quick-stop feature is obtained by the use of the CR2960-SY72 relay used in connection with those controllers employing a reverse contactor.

CR2960-SY72

Fast; Forward; Jog; Jog Forward; Jog Reverse; Reverse; Run; Safe; Slow; Stop.

For more than a quarter of a century, General Electric equipment has been designed and manufactured to meet the electrical needs of the printing plant—no matter whether it be large or small. When buying electric equipment for your pressroom, look for the G-E monogram—it is your assurance of constant quality and dependability.

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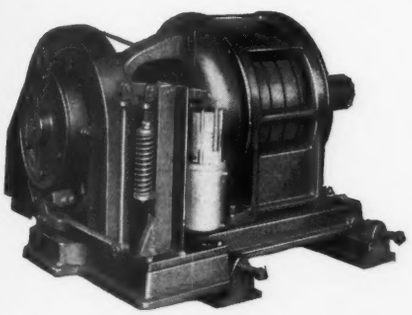
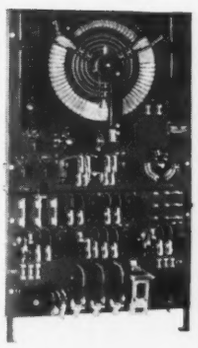
The publisher who turns to General Electric for the electric equipment for his pressroom takes into account a service that is unique in its completeness. Specify that your pressroom be electrically equipped throughout by General Electric—and from one end to the other, every motor, every controller—every piece of electric equipment will bear the G-E monogram—the symbol of unit responsibility and the mark of dependability.

FOR THE A. C. PLANT



Typical Double Motor A.C. Drive

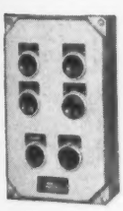
Below: Control For This Drive



Double motor drive equipments are available from 5 H.P. for the smallest press to 200 H.P. for the mighty high-speed presses of the metropolitan dailies. Complete equipment including full-automatic control and reliable push-button stations giving maximum convenience and flexibility of operation is available.

G-E CR6186 Paper-Break Detector.

CR6185-C1 Web Breaker



Complete line of accessories including paper-break detectors, web-breakers, audible and visual safety signal systems, cylinder brakes, push-button stations, etc.

Typical G-E Push-Button Station Type CR2940, Representative of the Complete Line.

VARIABLE VOLTAGE SYSTEM EQUIPMENTS

offering complete press-drive equipment for those who demand an extra refinement in smoothness of operation and economy of power.

FUNDAMENTAL NECESSITIES

Transformers — Switchgear —Switchboards — Indicating Instruments — Recording Instruments — Electric Heating Equipment.

Every stereotype furnace made by Duplex Printing Press Co., R. Hoe & Co., Walter Scott & Co., and Wood Newspaper Machinery Corp. can be quickly and economically fitted with electric heat.

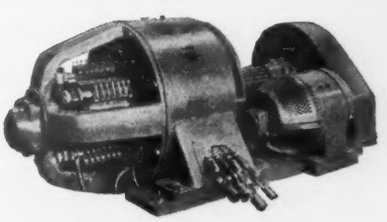
Stereotype Unit

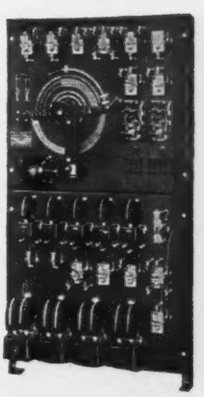
UNIT MOTOR DRIVE EQUIPMENTS

General Electric also has available a unit-motor drive for the pressrooms of large metropolitan dailies. With this new system, mechanical equalizing shafts between press units are eliminated, the results being greatly increased flexibility and surety of operation.

FOR THE D. C. PLANT

General Electric offers a complete line of double-motor D.C. drives comparable in size and rating to those offered for A.C. service and including suitable automatic control and push-button stations and signal equipment, together with all accessories.





Representative Double Motor D.C. Drive and full Automatic Control Panel

There is a G-E office near your plant, and there you will always find G-E specialists who are ready and willing to help you solve your power problems.

For complete Information on Any Electrical Equipment Address Your Nearest General Electric Office.

New Slipboard

By STAFF WRITER

Board Made by Dispatch *Printer Has Number of New and Novel Features*

THE composing room at The Columbus (O.) *Dispatch* is using a new chapel slipboard which has been in operation less than a month, during which time there has been a steady stream of visitors to inspect its working. Dwight L. Burk, a printer for 24 years, the last two of which have been spent at the *Dispatch*, is the inventor. His hobby is art and radio work and the new slipboard incorporates both of hese.

The frame is made of galvanized iron that has been specially treated, then painted and trimmed with chromium plating. The board stands 9 ft. 7 in. high and is 5 ft. long. Many of the parts were made to Burk's order and other parts are standard radio equipment.

As may be seen from the accompanying photograph, the left panel contains names of all subs employed in the *Dispatch* composing room; the center panel shows the names of regulars (first two columns) and subs (extreme right column), and a time panel at the upper right of the board indicates starting hours. Bulletins and other chapel notices are placed in the space at the lower right.

The slipboard has the enthusiastic support of Superintendent C. F. Tessier and Foreman Carleton Berry.

"It relieves a lot of the usual confusion and misunderstanding and simplifies the hiring of subs," Mr. Berry pointed out. "We used to stand before the old board and it would take us 10 minutes to figure out what subs were available and get the other information we wanted." By placing the board directly in front of Mr. Berry's desk in the composing room, he is enabled to make up his pay roll at a glance, he said.

In explaining how the new board operates, Burk points out that it was designed to keep the substitutes at all times in their priority standing, whether they work a day or night shift. It also eliminates cardboards and pencil for hiring.

A time change panel is incorporated to show starting time of shift for substitute, if otherwise than the regular starting time of the regular for whom he is working.

Substitutes appear in the left panel in priority, which is maintained at all times, whether showing night or day, as a metal slide is provided which will close either shift without changing position on the board.

Regulars as well as substitutes appear in the center panel in priority and are assigned a number which they maintain at all times. After having worked five days a substitute must hire another substitute. This explains the necessity for substitutes' names appearing in the center panel. The number is duplicated on the face of a plug which remains alongside the journeyman's name until used in the hiring of a sub.

In the left-hand panel where the subs' names appear, there are seven jacks, one for each day of the week. The regular or sub who desires to hire a substitute for work takes his assigned number plug and places it in the jack which represents the day he wishes the substitute to work for him.

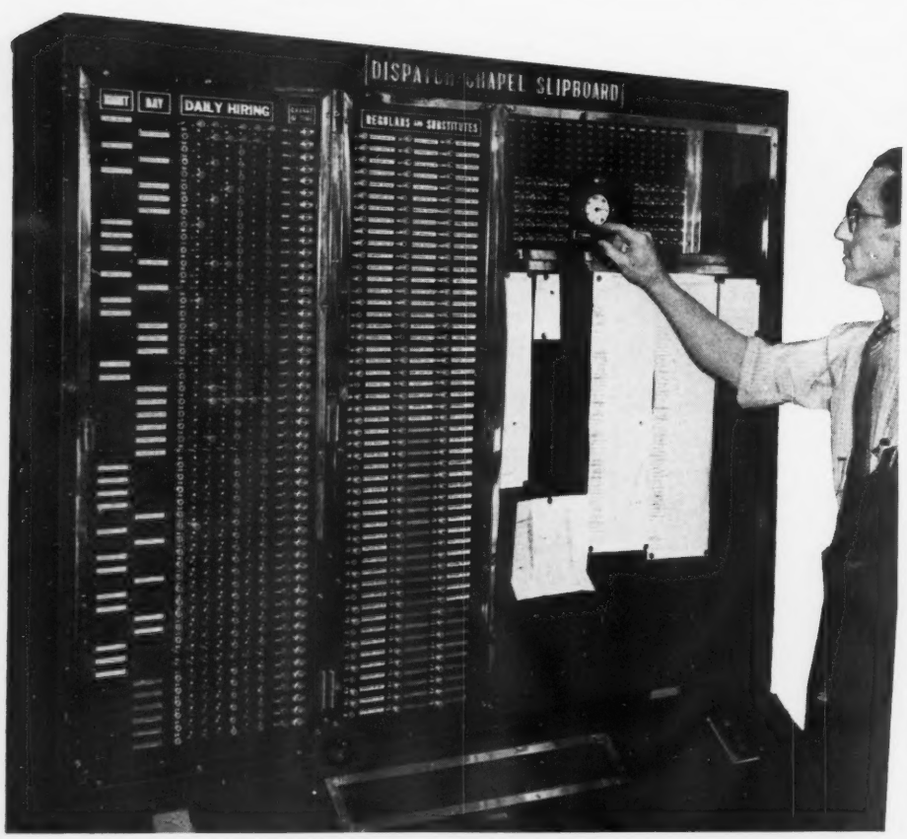
Just to the right of the seven jacks under the panel marked "Change of Time," opposite each sub's name is a small jewel light with switch. The office or any journeyman who has or desires a change of time, other than the regular starting time of that particular shift, throws the switch to light the red lamp.

The substitute then refers to the time change panel, where he will find his numbered plug (the number corresponding to his permanent number in the center panel) plugged under the starting time of his shift.

By various colors of plugs, arrangement has been made to close name, hire for "TF," office and journeymen daily hiring.

Advantages of such a system, according to Burk, are: (1) The journeyman is not compelled to return to the composing room floor and open his name in order to be open for the following day's work. This applies to stretch, unless indefinite "TF." (2) A sub has a chance to work the day following his stretch without waiting to be released by the regular before starting time and eliminates the necessity of a regular releasing a sub the day before in order to give his substitute the following day's work.

The board designed by Mr. Burk is said to eliminate the chance for error in the hiring of subs according to priority standing and makes it easy for the departmental foreman to keep his payroll records straight.



The Columbus (O.) Dispatch *composing room is now equipped with a new slipboard. There is none other like it. Here J. E. Burk, an employe and designer of the board is shown manipulating one of the plugs. The board, according to Burk, eliminates several of the faults and inefficiencies common to boards on which are used plain slips and tags.*

☆ HUBER *products have been used by printers for one hundred and fifty-six years!*

☆ HUBER *manufactures or controls all its own printing ink ingredients from basic raw materials!*

☆ HUBER *is an independently owned company free from the control of disinterested stockholders!*

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sored or been in the vanguard of every worth while printing ink advancement!

☆ HUBER *technical control throughout production insures highest quality and greatest uniformity!*

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What Is It?—Part III

By ADAM HENRY REISER

Elementals of Offset-Lithographic Processes Explained—Technique and Manipulation of Presses, Blankets, Register, Rollers, Paper and Ink Discussed

TWO previous articles on lithography called attention to the scope and versatility of the art and followed production steps up to the actual printing of the job on the offset press. From the paper to the pressplate, inks, acids, automatic feeder, inking and dampening mechanisms, roller and rubber blanket condition, as well as actual press adjustments, printing cylinder, pressures, etc., all of these factors need perfect balance to insure maximum results on an offset press. This last article of the series will develop some of the more vital factors in offset presswork.

Three Cylinders on Offset Press

Each single-color unit of an offset press in comprised of three main cylinders. One carries the pressplate, another the blanket, and the third—the impression cylinder—carries the paper to which the ink is delivered.

On modern presses these cylinders run on bearers. Each cylinder is driven by gears of equivalent ratio, so that each travels exactly one revolution simultaneously.

The plate cylinder is undercut for a specific plate thickness, that is to say, the diameter of that part of the cylinder where the press plate rests is smaller than the diameter of the bearers.

The 32 in. by 44 in. single-color Harris press has the plate cylinder undercut 0.020 in. while the pressplate thickness in 0.014 in. To get the plate up to the height

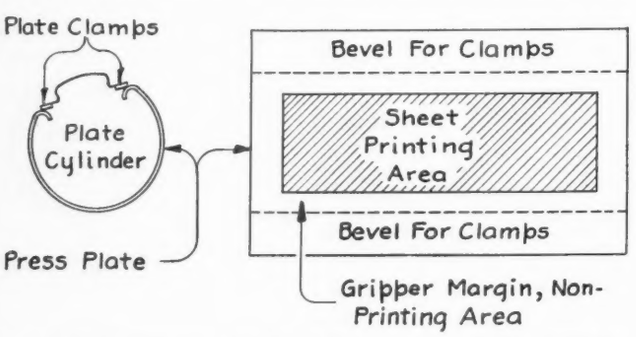

Fig. 10.—Diagrammatic representation of press plate in position around the cylinder of an offset-lith printing press. At the right is shown a flattened-out representation of the press plate and cylinder.

of the bearers or to fill the cylinder out, a sheet of 0.006 in. paper must be inserted under the plate.

The work on these plates is set back from the gripper edge a standard distance. Part of the metal along the front or gripper edge is caught by clamps just as is the case with the back edge of the plate. These clamps are set down below the surface of the cylinders. Therefore, the work has to be set back to what is known as the printing edge. This is the sum of the distances of that part of the plate in the clamps, plus the part up to the edge of the cylinder, plus the equivalent of the room needed on the sheet for the grippers (See Fig. 10.)

The blanket cylinder which contacts the plate and the impression cylinder is also undercut. On the same 32 in. by 44 in. Harris, the blanket cylinder is undercut to 0.075 in. while the blanket gauges from 0.062 in. to 0.065 in. To get the blanket up to bearers will then require a packing sheet under it measuring from 0.010 in. to 0.013 in. in thickness.

But there are also about four points of pressure necessary for a perfect print from the plate to the blanket. Normally, about one point extra is then put under the pressplate while the other three points extra is put under the blanket.

Precision Necessity

Exactness in all of the measurements of the offset press cannot be stressed too much. A look at the diagram, Fig. 8 on page 20, July issue, *Printing* Equipment *Engineer*, should make this plain. To get the maximum life from the plate image, the plate cylinder and the blanket cylinder should be so packed up as to be of the same circumference. They are geared together, you remember. For every complete revolution of one there must be a

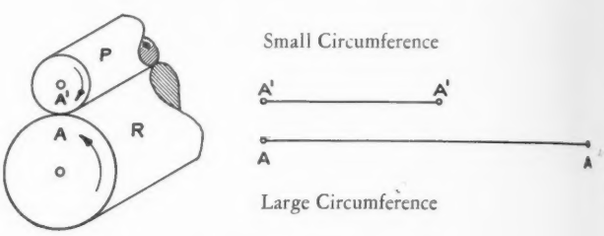

Fig. 11.—An exaggerated picture of what takes place if the blanket and plate cylinders on an offset-lith printing press vary in size. A^1 *represents distance the cylinder* P *travels in one complete revolution.* A *represents distance the cylinder* R *travels in one complete revolution.*

complete revolution of the other. Suppose we had the exaggerated condition illustrated in Fig. 11, where one cylinder is smaller than the other by one-half.

Both starting at *A* must meet again at *A* when one full revolution has been reached. Let's assume that the smaller cylinder has a circumference of 12 in. while the larger measures 24 in. A look at the distances laid out will bring a realization of the slipping and scuffing occurring on the surfaces (in constant contact) when the larger must finish at the same time as the smaller. (Of course, this gross exaggeration is merely to get the idea across; the difference that may exist with a margin of safety being nearer to $\frac{1}{8}$ in. in a 44 in. work size.)

The same holds true of roller setting; dampener setting; in fact, anything that makes contact with the pressplate cylinder must be set with the minimum of friction. In the case of the rollers and dampeners there is another reason which will be taken up later.

Pressman Must Micrometer Plate

It is essential that the pressman micrometer each plate put on an offset press. This measurement will enable him to build the plate up properly and thus preserve its life. Another reason for this measuring (of vital importance in precision multi-color work) has to do with the control of the size of the print by means of the sheets laid under the plate or blanket. The stretch of the paper may be coped with in this ability to vary the size

IDEAL ROLLERS

The Logical Answer to Every Roller Problem

THE wide diversity of presses and the work to be produced with them naturally present many roller problems. Existing conditions of one type of work may be exactly the opposite of another.

Don't go to the trouble and expense of experimenting in your plant in order to determine the proper rollers to use. Profit by all the information and experience we have gained through the years past in perfecting Ideal Rollers, guaranteed to deliver the high class of work you desire. The ever-growing list of progressive plants throughout the United States using Ideal Rollers attest the sincerity of our endorsements.

Listed below are the many different types of Ideal Rollers produced after years of scientific research and development work assured their superior performance for the specific type of press and kind of work for which each roller was intended.

- DX Newspaper Rollers*
- Cutting Rubbers
- Ideal (Vulcanized Oil) Lithographic Rollers
- Ideal (Vulcanized Oil) Distributor Letter Press Rollers
- Bulldog Lithographic Rollers
- Ideal Process Coated Rollers
- Vanitex Lithographic Blankets
- Graphic Non-Meltable Rollers
- Coating and Varnishing Rollers
- Rubber Letter Press Rollers (Oil-Resisting)
- DX Letter Press Rollers*
- Fabric-Covered Rollers
- Impression Rollers (all types)
- Rubber Blanket Rollers
- Rubber Waxing Machine Rollers
- Rubber Tanning Machine Rollers
- Rubber Gluing Rollers
- Rubber Friction Rollers (all types)
- Rubber Paper Machine Rollers
- Pull and Draw Rollers
- Gelatine Compositions
- Special Rubber Molded Items
- Rubber Plate Gum

*Compounds of Du Prene (a registered trade mark of Du Pont)

Select the special rollers you require or ask for the helpful cooperation of one of our efficient sales and service representatives located in the principal cities

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of the print. Increasing the size of the pressplate cylinder, and decreasing that of the blanket cylinder will shorten the size of the print. For this reason a thin plate is used on the last color of a multi-color job. This prints the image longer, and makes up for the stretch of the paper.

Paper and Ink

Whenever possible, paper is run through offset presses with the grain along the cylinder and the stretch across the cylinder. Printing is always carried on with the felt side receiving the ink. Of course, when there is a backup job, the screen side will have to be used. Under those conditions, the most important work will have to be printed to the felt side.

Ink used in offset printing has to have a fine balance. It must be of the proper consistency to give a faithful reproduction of the image. Too soft an ink will fill in the work, make the dots fuzzy, tend to grease the plate and possibly permit the damping water to kill its snappy crispness. If the ink is too stiff, its transferring properties suffer. The blanket will not lift the ink film properly and will fail to transfer it faithfully to the stock. Picking may occur, the surface fibres or paper coating being torn from the paper.

Drying of the ink is affected by its mixtures, too. Pigments may lie on the surface of the sheet, to be easily rubbed off, while the vehicle goes into the sheet or paper. The ink may pile on the blanket, dissolve the rubber and cause embossing of the blanket. When this happens, the blanket must be set aside for a period of weeks. In multi-color work, inks cannot dry too hard or subsequent printings will fail to lift on the glazed surfaces. Again, when bronze is used, previously printed colors must dry flat so as not to accept the bronze powder.

The ink used in lithography must be of such a nature as to enable it to keep the greasy base of the lithographic image alive. Friction, wear, and acid action of the damping solution all tend to destroy the litho image.

The Offset Blanket

Just as eternal vigilance is necessary to good inking, good dampening and to the care of the pressplate, so too the blanket must be watched. It is the medium of ink transfer. Made of rubber, backed by canvas (there are some of synthetic rubber) the blanket will stretch, cause doubles, slurs and smears and will then have to be pulled up a notch or two so as to stretch it taut. If the rubber becomes soggy, soft or spongy a very muddy print results. Tackiness from such a blanket will cause the sheets to adhere and tear and trip up the running of the machine. On the other hand, should the rubber become hard and glazed, the lifting qualities of the blanket suffer. Tints will not print properly, solids will be anything but smooth and spottiness will result. There is a happy medium that works with optimum results. Every dot and detail is picked up from the plate with such a blanket of live rubber. The maximum amount of ink is lifted and delivered to the sheet when the blanket acts properly.

Many things can affect the rubber detrimentally. Solvents used in washing up may cause swelling. Vehicles used in inks may have a destructive effect upon the rubber structure. The image may work up in relief or swell on the rubber. In that case, if an adjustment is not made, the relief section will cause more pressure on that part of the image and cause wear, thus shortening the life of the plate. Taking a point or two of pressure from under the rubber will remedy the trouble without harming the register appreciably. When a blanket embosses the vehicle may have been the cause. Continued pounding over a period of days during a long run will call for a lay-up of the blanket so that it can seek its own level again. Then too, the dampening solution has been known to hurt the blanket.

Rollers

Dampening is necessary to the wet form of lithographic printing. Before the rollers impart a film of ink to the lithographic plate, dampeners pass over the plate surface. This insures freedom from ink in the white areas.

Three dampeners, or to be exact, two dampeners and a ductor, comprise the dampening apparatus on the offset press. The dampening solution usually is kept in a fountain or tray behind the plate cylinder. The solution kept in this fountain varies with the pressman. Some use chromic acid; some use burnt nitric; others, combinations of salts, bichromate, citric; all combined with gum arabic, phosphoric and some glycerine. Considerable care must be exercised with the composition and strength of the solution because of its injurious effects on the work on the pressplate as well as the ink. When the dampening water goes up into the ink system the riders often strip.

Good dampener setting is absolutely essential to perfect lithographing. Good practice demands that one dampener be set tighter to the brass roller than the other so that one will leave a supply of water on the brass for the follower. The brass roller should be kept clear of ink. Hard worn dampeners should be discarded. Those that are loose and baggy should be repaired. The minimum amount of etch necessary for the plate should be run.

Rollers or dampeners set too tightly against each other cause damage to the skins, rubbers, or molleton. In addition, improper ink or water distribution sets in. When faulty setting to the press plate occurs, the hygroscopic coating is disturbed, and scumming sets in. Finally the image suffers.

Ink roller setting is also extremely important. Inkers should be set to 0.003 in. tightness the same as the dampeners. Correct setting assures that the ink will carry from the ink fountain to the drum, thence to the intermediate rollers, to the riders and then to the form rollers. If any of the rollers are set too tightly bowing occurs, invariably resulting in poor ends.

Inkers set too tightly to the plate will cause greasing and excessive wear. This tight setting can usually be recognized in the jump the roller takes when dropping off and going back to the plate. In addition, a squeegee action is set up which smears instead of inks.

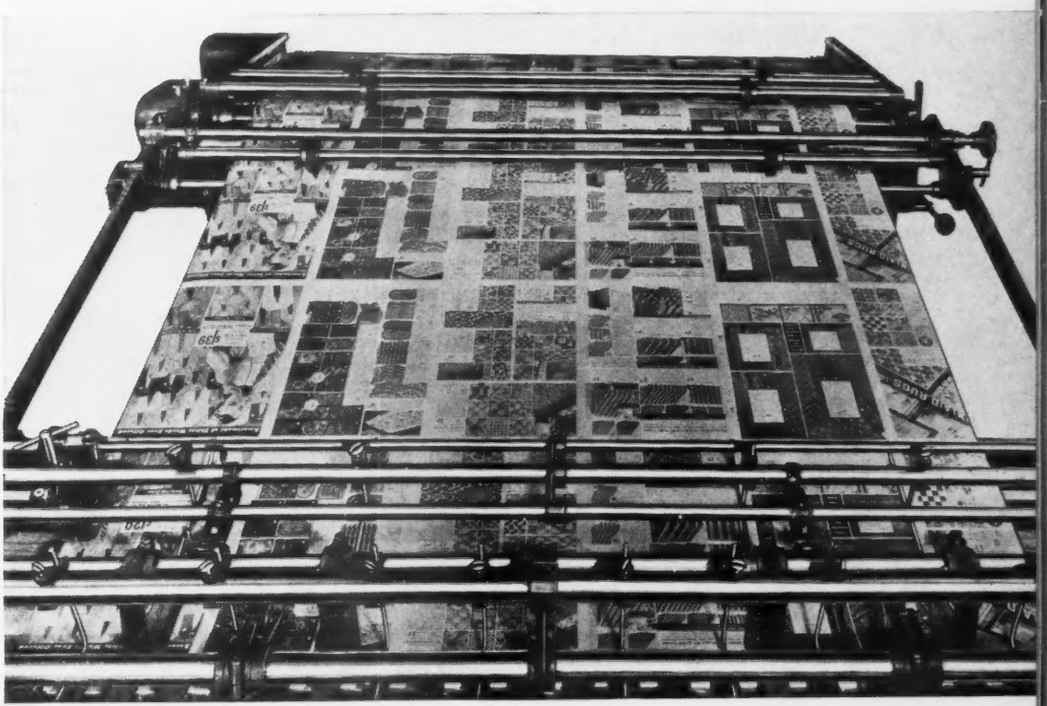
Very few leather grain rollers are in use these days—all composition rollers being used. Washup is easier and the job printed is just as good.

Feeder

In the actual running of the press there will be found a speed at which the press prints the best, feeds the best, and in color work registers the best. As in letterpress machinery, the maximum speed rarely can be achieved. The speed is very often determined by the stock and class of work run. The difficulty with which onion skin paper is carried through as compared with cardboard or a firm sheet illustrate the point readily. The old curled gum paper offered no end of trouble in getting the sheet to guides. Then often there was trouble caused by the dampness on the blanket being transferred to the sheet.

Modern presses have automatic feeders. The sheets are piled up and placed under the suckers and holders of the feed mechanism. In the feeding device, first of all there must be enough air gotten on the sheet to

Announcing THE NEW CHRISTENSEN FEEDER WITH STREAM CONVEYOR



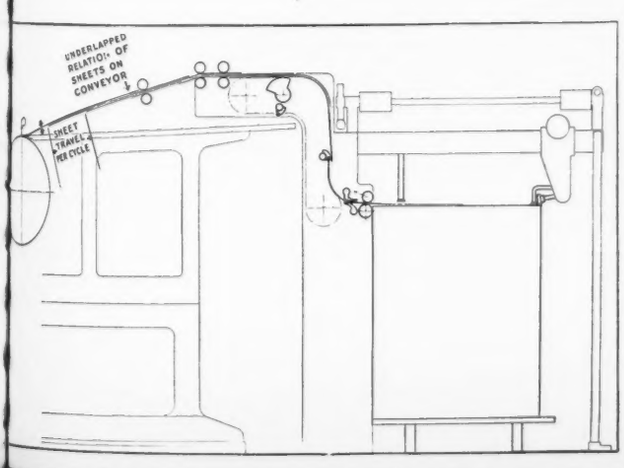
Ask yourself these questions:

1. Do your present feeders limit the speed at which your presses operate?

2. Are you interested in improved register?

3. Would a feeder with pile height at eye level (which eliminates platforms regardless of feed-board height), where adjustments can be made from the floor, improve your volume of production?

4. Can you appreciate the fact that a feeder presenting sheets to the front guides of the press at a sheet speed of but 8 to 13 inches per cycle would improve register?



5. Would a feeder conveyor that requires no top rods, mechanical slow-downs, and other sheet-controlling devices, reduce "down time" on your press-and-feeder unit?

6. Would a feeder that removes all loose scraps of paper and most of the paper dust, reduce chances of battered plates and packing, and in turn reduce number of wash-ups necessary?

★ *If you answer "yes"*, investigate this new Christensen Stream Conveyor sheet feeder, which presents sheets in slow motion to any press.

Performance of the new Stream Conveyor feeder and its many mechanical features are described in a folder now on the press. Write for your copy of Bulletin P-11.

THE CHRISTENSEN MACHINE COMPANY

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lift it properly. There must be air blown under the sheet as the combers twirl the two back corners of the sheet. The hold-down must be set to hold the sheet near to the combers. Different papers have different settings. The slo-down, cams, sheet detector and guides must all be correctly timed.

With this rather sketchy outline of presswork, our series of articles concludes. Succeeding writings will develop some of the operations a bit more fully.

How Will It Print?

THIS is the title of a booklet recently published by S. D. Warren Co., paper makers. The book can't help but bring the buyer of printing and the printing plant executive personnel to a better understanding of the problems of mechanical executives in trying to produce fine printing with faulty plates. We are glad to note that the book has been prepared from the standpoint of showing what can and what cannot be done in the pressroom when engravings do not possess tone values. The book also shows by graphic illustration

what happens when pressroom practice is not what it should be with respect to paper, ink, and makeready. From the standpoint of valuable technical information and as a source of reference, this book should be in the hands of every superintendent and pressroom executive. A representative of the S. D. Warren Co. is visiting local clubs of Printing House Craftsmen and addressing them along the lines covered in the booklet.

Section I covers the need of correct lighting, retouching, re-etching and painting to secure a plate that will print to full value and without trouble from offset, sticking and other difficulties in the pressroom. Convincing parallels are shown to back up the text in the booklet.

Section II is devoted to the causes of offset and mottling of halftone prints. The illustrations in the text show what happens if a suitable ink is not used, if the makeready is not thorough or if the plate is not favorable to good printing. Thus the attempt to print a "gray" plate in full color often ends in disaster. The gray plate may have been produced at the scale price but the solids, broken by the screen, need painting by the engraver in order that the printer may produce a good job. If the pressman forces the color, detail is lost, the highlights fill and slipsheeting is necessary to avoid offset. The loss in the pressroom generally is greater than the above-scale engraving work necessary to produce a high grade plate.

Section III shows results obtained with glossy and dull black inks on glossy coated papers, comparisons of dull and semi-dull black inks on dull coated paper, and comparisons of glossy black and dull black inks on English finish paper.

Section IV contains valuable information on the mottling and offset of tints and overprints with illustrations in color.

Section V discusses printing of gold and silver ink on various papers and shows the results obtained by a single impression and by printing over various bases. This is a useful chapter for ready reference.

Section VI is a comparison of the results obtained on various papers by spirit varnishing and press varnishing, (spot or overprint varnishing). Some of the prints were produced by letterpress and some by offset.

NEW FACES BY LUDLOW

An original script typeface of American design and manufacture, entitled Hauser Script, is announced by the Ludlow Typograph Company as available in matrix form. The letter designs handwritten in free and informal style, without subsequent touching up of detail to form a hand lettering effect in type for the use of the printer. This typeface is the design of George Hauser, well known New York artist, who has for many years done much of the best hand lettering, particularly of the script character, appearing in national advertising. Hauser Script is available in sizes from 24 to 72 point, driven in the slanting Ludlow italic matrices.

Bodoni Campanile, named after the Campanile of St. Mark's at Venice, a tall and slender, yet bold version of Bodoni, is a late typeface announced by the Ludlow

Ideal Display Heading

Hauser Script

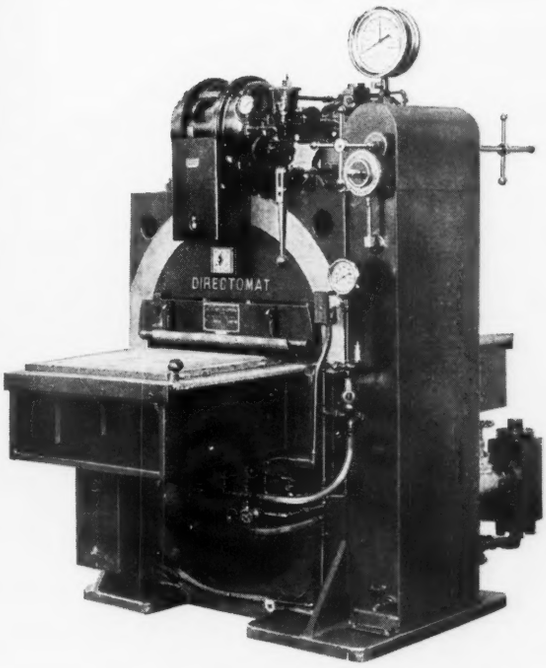
GOOD ART to visitors

Bodoni Campanile

Typograph Company as available in matrix form. Bodoni Campanile is available in sizes from 18 to 72 pt.

Bodoni Modern, with its italic, is one of the newest offerings in matrix form, of the Ludlow Typograph Company. This version of Bodoni, while strong enough for display, is also legible for reasonable amounts of body matter. Bodoni Modern is available in 6 to 72 pt. and Bodoni Modern Italic in 6 to 48 pt.

Specimen sheets of any or all of these new type faces may be obtained on request to the Ludlow Typograph Company.



The DIRECTOMAT
HYDRAULIC MATRIX PRESS

Suitable for cold and hot moulding (dry or wet mat). • Positive Pressure Control, Automatic Pressure Drop. • Steam - Electric Heating, Automatic Heat Control. • Dual Controls—Operation from both sides. • Suction Device for speeding up drying of mat. • Anti-Friction Form Rolling Plates.

37 INSTALLATIONS

DEMONSTRATION INVITED

The Race With Time

● The conquest of time is the kernel of progress. What was once the journey of a month is now the flight of a morning; what was once the effort of weeks for a hundred men is now an hour's job for a loom, or a press, or a harvester.

● The progressive improvement of the DIRECTOMAT has kept step with modern high-speed newspaper presses, improved composing room equipment, and other latter-day developments. Faster presses require better and more accurate plates. These permit using a harder packing and the result is better reproduction, less ink consumption, less web breaks, better wear of plates, and smoother operation.

● You owe it to the progressive spirit of your newspaper to install a DIRECTOMAT as a means of producing A BETTER MAT, and, in turn, a better plate.

● A newspaper's profits are the stakes in its continuous race against time. The passage of time is regular, inexorable, but the newspaper office may be fast or slow, depending upon whether it is fit for the race or handicapped by obsolete equipment. Users of DIRECTOMAT Matrix Presses are on safe ground. In the race with time, they are sure winners, providing other phases of their production are similarly speedy and efficient.

● Judged by any standard you like—as an investment for faster and better work, or as an engineering masterpiece — the new DIRECTOMAT stands supreme. It is the product of an organization SPECIALIZING in the design and manufacture of hydraulic equipment.

●

LAKE ERIE STEREOTYPE EQUIPMENT CORPORATION

Division of Lake Erie Engineering Corp. **Kenmore Station, Buffalo, N. Y.**

Printing EQUIPMENT *Engineer*

1937

MANUFACTURERS', DEALERS' AND SUPPLIERS' INDEX

For the Printing Equipment and Supplies Trade

To the Production or Mechanical Executive:

In the following pages will be found an alphabetical index of printing equipment and supplies manufacturers and the names of dealers and suppliers to the industry. Each address is followed by a brief summary of the equipment and supplies made or handled by the company. This index has been compiled without charge to the manufacturer, dealer and supplier for your convenience.

Following this index in another section will be found a printing equipment and supplies index which is comprised of machinery and supplies listed in separate printing plant departmental sections. Under these classifications will be found the makers of the equipment or supplies applicable to the department of the printing plant in which the equipment or supplies are to be used. Each departmental index is preceded by a key. Equipment and supplies used in each department will be found in the key for that department and is associated with a symbol for the convenience of those who wish to set up one or more units of the P-Double-E Filing System for their own convenience. A cross-index is printed below each key. Manufacturers' names have been printed in the cross-index under each heading taken from the key.

The name of each manufacturer, dealer or supplier advertising in this issue of *Printing* EQUIPMENT *Engineer* has been set in bold face together with the page number upon which the advertisement appears.

Every effort has been expended by those engaged in collating the names and addresses appearing in this index to see that the information as given appears correctly and for that reason we cannot be responsible for errors or omissions.

A

Abrams, The M. L., Co., 1639 Superior Ave., Cleveland, O. Dealers in re-manufactured machinery.....137

Academy Rule Shop, 89 Academy St., Newark, N. J. Dealers in metal rule, type, leads, and borders.

Ace Belting Co., 4300 Washburn Ave., N., Minneapolis, Minn. Cord-rubber line-casting machine belts.

Acheson Ink Co., Inc., 142 Skillen St., Buffalo, N. Y. Letterpress and lithographic inks. Opaque.

Acme Electric Heating Co., 1217 Washington St., Boston, Mass. Glue pots, air heaters, matrix platens, embossing plates and gilding wheels.

Acme Gear Co., 7th and Wood Sts., Philadelphia, Pa. Anti-offset spraying equipment.

Acme Press Blanket Co., 117 N. Wells St., Chicago, Ill. Mfrs. of blankets, vibrators, brackets and roller distributors.....161

Acme Printing Appliance Co., 333 S. Clinton St., Chicago, Ill. Mfrs. of sheet heaters, roller trucks, vibrating distributors, fountain dividers and other attachments.

Acme Staple Co., 1643 Haddon Ave., Camden, N. J. Saddleback stapling machines.

Acme Wood Type Mfg. Co., 61 Beekman St., New York, N. Y. Mfrs. of wood type.

Advance Mfg. Co., Inc., 350 N. 26th St., Louisville, Ky. Air and paper conditioning equipment.

Aigner, G. J., Co., 503 S. Jefferson St., Chicago, Ill. Gummed hollands and cambrics.

Ajax Metal Co., The, 46 Richmond St., Philadelphia, Pa. Metals.

Albemarle Paper Mfg. Co., The, Box 2189, Richmond, Va. Blottings, cover paper and specialties.

Allied Printing & Binding Machinery Co., 1975 E. 65th St., Cleveland, O. Dealers in new and used machinery—repairing.....144

Allied Steel Equipment Co., Lapeer, Mich. Filing equipment, desks, trucks, shelving, chairs.

All Steel Welded Truck Corp., 1149 Railroad Ave., Rockford, Ill. Trucks and platforms.

American Abrasive Metals Co., 50 Church St., New York, N. Y. Non-slip step and floor plates.

American Blower Corp., 6000 Russell St., Detroit, Mich. Air and paper conditioning equipment.

American Brass Co., The, 25 Broadway, New York, N. Y. Copper anodes and sheets.

American Felt Co., 315 Fourth Ave., New York, N. Y. Felts.

American Numbering Machine Co., Atlantic and Shepherd Aves., Brooklyn, N. Y. Mfrs. of numbering machines.

American Printers Roller Co., 1342 N. Halsted St., Chicago, Ill. Printers' rollers and adhesives, glue, etc.

American Printing Ink Co., Div. General Printing Ink Corp., 2314 W. Kinzie St., Chicago, Ill. Letterpress, litho, offset, gravure printing inks, driers, varnishes and compounds.

American Publishers Supply, P. O. Box 131, West Lynn, Mass. Stereotype scorching machines, scorcher supplies, autoplate, pressroom and composing room accessories.....32-33

American Steel & Copper Plate Co., 101 Fairmount Ave., Jersey City, N. J. Steel, copper, brass plates for engraving, supplies.

American Steel Chase Co., 122 Centre St., New York, N. Y. Mfrs. of chases, saws, trimmers, trucks, rules, galleys, cutters, mitering machines, dealers.....153

American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill. Bookbinders wire.

American Transfer Paper Co., 1759 Sunnyside Ave., Chicago, Ill. Prepared india transfer paper.

American Type Founders, 200 Elmora Ave., Elizabeth, N. J. Mfrs. of printing presses, parts and type, stitchers, cutters, etc. Dealers in printers' supplies and equipment.....82-ABCD

American Writing Paper Co., Inc., Holyoke, Mass. Bond, linen, ledger, writing, bristol, book, offset, cover, wedding, papeterie and greeting card papers.

American Wood Type Mfg. Co., 270 Lafayette St., New York, N. Y. Mfrs. of wood type.

American Zinc Products Co., The, Greencastle, Ind. Zinc litho plates, copper and zinc photoengraving plates.

Amthor Testing Instrument Co., Inc., 317 Johnson St., Brooklyn, N. Y. Testing instruments, time recorders.

Anderson, C. F., & Co., 3225 Calumet Ave., Chicago, Ill. Mfrs. of trucks, folders and binding machinery, binding and bundling presses.

Angle Steel Stool Co., Inc., 820 N. Oak St., Plainwell, Mich. Composing room steel furniture.....149

Arabol Mfg. Co., The, 110 E. 42nd St., New York, N. Y. Gums, glues and pastes.

Arnold Numbering Machine Works, 9 N. Franklin St., Chicago, Ill. Dealers and repairers of numbering machines, eyelet, stapling and punching machines.

Atkins, E. C., & Co., 402 S. Illinois St., Indianapolis, Ind. Paper knives and slitters, cutting, scoring and perforating rule, saws, files and ozokerite.

Atlantic Zinc Works (Rolled Plate Metal Co.), 210 Van Brunt St., Brooklyn, N. Y. Zinc, alloy and copper plates for photoengraving and gravure.....142

Atlas Electric Devices Co., 361 W. Superior St., Chicago, Ill. Engravers' arc lamps, plate whirlers and vacuum frames.

Aurora School of Photoengraving, Aurora, Mo. Photoengraving equipment and supplies.

Automatic Register Guide Co., 3609 Fifth Ave., N., Birmingham, Ala. Register guide for presses.....161

Automatic Saw Sharpening Co., 735 E. Ohio St., Indianapolis, Ind. Sharpens saws for printers, dealers in new equipment, routers.....90

Automatic Time Stamp Co., 139 Atlantic Ave., Boston, Mass. Time recorders.

B

Babcock Printing Press Mfg. Co., 38 Park Row, New York, N. Y. Mfrs. of cylinder presses, automatic job presses, rotary color presses, cutting and creasing machines.

Bache, Semon, & Co., 636 Greenwich St., New York, N. Y. Magnifying and reducing glasses.

Baer Bros. (Bronze and Varnish Dept.), 438 W. 37th St. New York, N. Y. Dusting and ink bronzes and ink varnishes.

Baker, A. F., Machine Co., 142 Oliver St., Boston, Mass. Machinery dealers.

Baltimore Type & Composition Corp., 15 S. Frederick St., Baltimore, Md. Mfrs. of type.

Bantam Ball Bearing Co., South Bend, Ind. Bearings for high speed newspaper presses.

Barager, M. E., 6523 20th Ave., N.E., Seattle, Wash. Dealer in typesetting machinery, parts and supplies.

Barkley Associates, 176 Federal St., Boston, Mass. Architects and engineers.

Barma Sales Agency, 530 Atlantic Ave., Boston, Mass. Bronzing machines.

Barnard, Paul J., 1600 Junction Ave., Racine, Wis. Manufacturer of embossers for raised letter process (thermography).

Bates Mfg. Co., The, 30 Vesey St., New York, N. Y. Eyeletters, numbering machines, perforators, staplers.

Bauer Type Founders Co., Inc., 235 E. 45th St., New York, N. Y. Distributor of imported type.....100

Baum, Russell Ernest, 615 Chestnut St., Philadelphia. Pa, Mfr. of folding machine—dealer in folding machines, feeders and presses.

Bausch & Lomb Optical Co., 685 St. Paul St., Rochester, N. Y. Magnifiers and microscopes.

Beall, James I., 115 S. Union St., Akron, O. Dealer in supplies for the printing plant.

Beall, Jack, Vertical Service, 705 S. Dearborn St., Chicago, Ill. Transfer table for Miehle vertical press.

Becker-Kowalick Co., 1716 W. Hubbard St., Chicago, Ill. Tables and benches.

Beckett Paper Co., The, Hamilton, O. Covers, book and offset papers.

Beckfield Rotary Vacuum Blower Co., 220 Penn Ave., Pittsburgh, Pa. Air pumps.

Belmont Smelting & Refining Works, Inc., 318 Belmont Ave., Brooklyn, N. Y. Metals.

Ben Day, Inc., 118 E. 28th St., New York, N. Y. Shading machine equipment, etching ink and gamboge.

Benson, W. B., & Co., 1018 Douglas St., Omaha, Neb. Machinery dealers.

Berger Mfg. Co., The, Canton, O. Steel office and filing furniture.

Berry Machine Co., 716 N. First St., St. Louis, Mo. Mfrs. of round hole cutting machines, paper lifts attached to presses, pneumatic book presses, machinists, repairers.

Best, Edward H., & Co., 222 Purchase St., Boston, Mass. Blankets.

Bijur Lubricating Corp., 22-08 43rd Ave., Long Island City, N. Y. Lubricating equipment.

Bingham Bros. Co., 406 Pearl St., New York, N. Y. Printing press rollers, glues, padding compounds.

Bingham & Runge Co., The, 1374 E. 12th St., Cleveland, O. Seasonal composition rollers, all season rollers and padding glue.

Bingham's Son Mfg. Co., Sam'l., 636 Sherman St., Chicago, Ill. Composition, rubber, canvas covered, graining, offset, lithograph, varnish and lacquer rollers.

Binney & Smith Co., 41 E. 42nd St., New York, N. Y. Carbon blacks, bone blacks and oxides of iron for ink manufacturing industry.

Black Cross Metal Cleanser Co., 128 Moss Ave., Highland Park, Mich. Cleanser for molten metal.

Black Rock Mfg. Co., Bridgeport, Conn. Rubber roller grinders and polishers, and roller gauges.....146

Blatchford, E. W., Co., 63 Park Row, New York, N. Y. Mfrs. of plate mounting bases, pin catches, ratchet catches, printing metals and fluxes.....140-141

Blomfeldt & Rapp Co., 108 N. Jefferson St., Chicago, Ill. Mfrs. of macerating machines.

Bobemeter Mfg. Co., Room 724, Marion Bldg., Cleveland, O. Bobemeter for gauging stereo plates....161

Boehner Binder Co., 111 Fox St., Aurora, Ill. Roll gold stamping and embossing machines.

Booth, The E. A., Rubber Co., 364 Rockefeller Bldg., Cleveland, O. Rubber rollers and gloves, printers' cut cement and engravers' rubber cement.....139

Boston Saw & Knife Co., 102 Pearl St., Boston, Mass. Trimmer saws, paper knives, cutting sticks.

Boston Wire Stitcher Co., Division St., E. Greenwich, R. I. Mfrs. of wire stitchers, staples and stapling machines.

Bound Brook Oil-less Bearing Co., Bound Brook, N. J. Bearings, bushings and washers.

Bourges Service, Inc., 220 E. 23rd St., New York, N. Y. Artists' shading sheets and accessories.....161

Boyar-Schultz Corp., 2110 W. Walnut St., Chicago, Ill. Engineers. Build printing machinery to order and design same.

Brackett Stripping Machine Co., 505 Jackson St., Topeka, Kan. Mfrs. of stripping machines and safety trimmers.

Braden-Sutphin Ink Co., The, 1736 E. 22nd St., Cleveland, O. Printing, litho-offset, water color inks, varnishes and driers.....91

Brandtjen & Kluge, Inc., Gaultier at Como Ave., St. Paul, Minn. Mfrs. of automatic platen presses and feeders.....57

Breuer Electric Mfg. Co., 852 Blackhawk St., Chicago, Ill. Portable blowers and cleaners.

Brintnall, Harry W., Co., 430 Howard St., San Francisco, Calif. Dealers in machinery and supplies for printers and bookbinders.

Bristol Co., The, Waterbury, Conn. Temperature and humidity recording devices.

Brooks Paper Co., 400 Security Bldg., St. Louis, Mo. Mats and blankets for stereotypers.

Brown Co., 404 Commercial St., Portland, Me. Bond, ledger, bristol, cover and offset paper.

Brown Folding Machine Co., 301 E. 18th St., Erie, Pa. Mfrs. folding machines.

Brown & Sharpe Mfg. Co., Providence, R. I. Paper gauge micrometer and tools for the printing machinist.

Bryant Paper Co., Kalamazoo, Mich. Offset, book and coated papers.

Buckeye Paste Co., 270 S. Wall St., Columbus, O. Adhesives.

Buffalo Forge Co., 490 Broadway, Buffalo, N. Y. Air conditioning equipment.

Bultman, F. H., The, Co., 10271 Berea Rd., Cleveland O. Mfrs special machinery, repairs and rebuilds.

Bunn, B. H., Co., Vincennes Ave. and 76th St., Chicago, Ill. Tying and bundling equipment.

Burgess Cellulose Co., Freeport, Ill. Stereotype dry mats.....59

Burke Machine Tool Co., The, Conneaut, O. Bench machine tools.

Burrage, Robert R., 15 Vandewater St., New York, N. Y. Padding and bookbinding glue.

Bush Krebs Co., Inc., 408 W. Main St., Louisville, Ky. Machinery dealers.

Business Men's Paper Press Co., Wayland, Mich. Paper balers.

C

California Ink Co., The, 545 Sansome St., San Francisco, Calif. Rollers, letterpress, lithographic and offset inks, photoengravers' equipment and supplies.

Callaway Mills, 295 5th Ave., New York, N. Y. Wiping towels.

Cameron Machine Co., 61 Poplar St., Brooklyn, N. Y. Paper slitting and winding equipment.

Campbell Printing Press, 118 199th St., St. Albans, N. Y. Dealers in printing press parts; printers' machinists.

Carborundum Co., The, Niagara Falls, N. Y. Tympan paper, sharpening stones, grinding wheels.

Carlson, John P., Inc., 420-428 Carroll St., Brooklyn, N. Y. Letterpress, litho, offset and water color inks.

Carmichael Blanket Co., 1151 Oxford Rd., N.E., Atlanta, Ga. Press and stereotype blankets.

Carpenter-Tew Gear Co., 67 35th St., Brooklyn, N. Y. Gears, plate srops and wipers for stereotype machines; printing press gears.

Casper Gripper Co., 357 Bangor Bldg., Cleveland, O. Grippers for job presses.

Cavagnaro, John J., 5th, Essex & Sixth Sts., Harrison, N. J. Roughing machines.

Cavicchi Polishing Machinery Co., 60 Walnut St., Dorchester (Boston), Mass. Lithographic stone polishing machine (electric).

Celluloid Corp., 10 E. 40th St., New York, N. Y. Transparent packaging material.

Central Machine Works, 437 S. Senate Ave., Indianapolis, Ind. Paper roll trucks.

Century Electric Co., 1806 Pine St., St. Louis, Mo. Electric fans and motors.

Cercla, Inc., 231 S. Green St., Chicago, Ill. Binding process.

Certified Dry Mat Corporation, 342 Madison Ave., New York, N. Y. Stereotype dry mats.....28

Challenge Machinery Co., Fulton Ave. & Beech Tree St., Grand Haven, Mich. Mfrs. of presses, cutters, drillers, routers, punches, knives, cabinets, motors, iron furniture, etc.....61

Chalmers Chemical Co., 123 Chestnut St., Newark, N. J. Type wash.

Chambers Bros. Co., 52nd & Media Sts., Philadelphia, Pa. Mfrs. of feeders for folding machines, folding machines, varnishing machines.

Chambon Corp., 911 New York Ave., Union City, N. J. Rotary printing presses built to order.

Champion Paper & Fibre Co., The, Hamilton, O. Coated and uncoated papers, cardboards and bristols, bonds, writings and kraft wrapping.

Chandler & Price Co., 6000 Carnegie Ave., Cleveland, O. Mfrs. of printing presses and paper cutters.....85

Channing, Alfred W., St. Albans, N. Y. Remelting furnaces and composing machine metal feeders.

Chapman Sales & Mfg. Co., 504 S. Broadway, St. Louis, Mo. Dealers in used machinery, repairers.

Charnock Co., 160 Ellicott St., Buffalo, N. Y. Dealers in printing machinery, type and supplies, machinists.

Chemco Photoproducts Co., 230 W. 41st St., New York, N. Y. Cameras and photoengraving supplies.

Cheshire Mailing Machines, 111 W. Washington St., Suite 1812, Chicago, Ill. Dick mailing machines.

Chicago Lino Maintenance Co., 564 W. Randolph St., Chicago, Ill. Dealers and repairers of Linotypes.

Chicago Printers Machinery Works, 609 W. Lake St., Chicago, Ill. Dealers in new and used machinery and supplies, repairers.....133

Chicago Roller Co., 554-570 W. Harrison St., Chicago, Ill. Composition, rubber, lithographic and offset rollers.

Chicago Steel & Wire Co., 103rd St. and Torrence Ave., Chicago, Ill. Bookbinding and boxmaking wire.

Chicago Wheel & Mfg. Co., 1103 W. Monroe St., Chicago, Ill. Portable routers and grinders.

Christensen Machine Co., The, 100 Fourth St., Racine, Wis. Mfr. of paper feeders for presses, folders and sheet fed machines, bronzers, heaters and stitchers..71

Cincinnati Time Recorder Co., The, 1733 Central Ave., Cincinnati, O. Time recorders.

Clark, E. C., 250 Nicollet Ave., Minneapolis, Minn. Mfr. and dealer in grippers.

Claybourn Corp, 3713 N. Humboldt Ave., Milwaukee, Wis. Mfr. of printing machines and plate making equipment.

Clean-A-Press Machine Co., 821 3rd St., Des Moines, Ia. Offset roller cleaning attachment.

Cleanprint, Inc., 225 Varick St., New York, N. Y. Spraying unit and liquid to prevent offset.

Cline Electric Mfg. Co., 211 W. Wacker Dr., Chicago, Ill. Mfr. of reel and tension machinery and equipment and printing press controls.....12-13

Cling-Surface Co., 1032 Niagara St., Buffalo, N. Y. Belt dressing.

Clipper Belt Lacer Co., 974 Front Ave., N.W., Grand Rapids, Mich. Belt cutters, lacers and hooks.

Coated Textile Mills., Inc., Columbus and York Aves., Pawtucket, R. I. Imitation leather.

Coes, Loring, Co., 72 Coes St., Worcester, Mass. Knives of all kinds.....152

Coffing Hoist Co., 313 Van Buren St., Danville, Ill. Metal feeders for line casting machines.

Coil Binding Co., 55 Farragut St. N.E., Portland, Ore. Binding process.

Collins, A. M., Mfg. Co., 226-240 Columbia Ave., Philadelphia, Pa. Chalk overlay for press makeready; book and cover papers and cardboards.

Columbia Printing Machinery Corp., 2 Lafayette St., New York, N. Y. Seal and embossing press, offset presses, bronzing machines. Slitting and rewinding machines.

Consolidated Ashcroft Hancock Co., Inc., 11 Elias St., Bridgeport, Conn. Gauges and testing instruments.

Consolidated Printing Ink Co., 431 N. Griggs St., St. Paul, Minn. Letterpress, lithographic and offset inks.

Continental Type Founders Assn., 228 E. 45th St., New York, N. Y. Mfrs. of type; importers of foreign type.

Cork Insulation Co., Inc., 155 E. 44th St., New York, N. Y. Insulation corkboard to check noise and vibration.

Corkpak Co., The, 250 E. 43rd St., New York, N. Y. Press and stereotype blankets, drawsheets, cutting knives and cutting rubbers.....157

Cottrell, C. B., & Sons Co., P. O. Drawer No. 515, Westerly, R. I. Mfrs. of rotary web magazine presses, sheet fed rotary presses, roll feed bag presses, proof presses, electrotype and stereotype machinery, cutting and creasing presses.....53

Covel-Hanchett Co., Big Rapids, Mich. Paper and slitting knife grinders, knife balances and saw sharpeners.

Coyne & Paddock, Inc., 48-15 32nd Pl., Long Island City, N. Y. Cork and rubber blankets.....150

Craftsman Line-Up Table Corp., 49 River St., Waltham, Mass. Mfrs. of line-up tables.

Craftsmen Machinery Co., 307 Atlantic Ave., Boston, Mass. Dealers and repairers of used machinery..145

Craig Sales Corp., 636 Greenwich St., New York, N. Y. Offset preventive device.

Crescent Ink & Color Co. of Pa., 464 N. 5th St., Philadelphia, Pa. Letterpress, litho and offset inks, varnishes and driers.

Crocker-McElwain Co., Holyoke, Mass. Bonds, covers, drawings, folding boxboard, ledgers, offset, onion skins and writings.

Cromwell Paper Co., The, 4801 S. Whipple St., Chicago, Ill. Tympan paper.....159

Curle Mfg. Co., 500 Sansome St., San Francisco, Calif. Mfrs. of parts for printing machinery, parts and repairs for linotype machines, saw for attachment to linotype machines.

Cushman Electric Co., 69 S. Main St., Concord, N. H. Mfrs. of motor for typecasting machines, routing machines and heads.

Cutler-Hammer, N. 12th St. and W. St. Paul Ave., Milwaukee, Wis. Electric switches and controls for printing machinery.

D

Davidson Perforator Corp., 7153 68th Pl., Glendale, Brooklyn, N. Y. Mfrs. of perforators, scorers and slitting attachments for presses.....160

Day, The J. H., Co., 1144 Harrison Ave., Cincinnati, O. Ink mills and mixers.

Dayco Div., Dayton Rubber Mfg. Co., The, Dayton, O. Printing press ink rollers.

Dennison Mfg. Co., Framingham, Mass. Gummed and metallic coated papers, tags.

Detroit Edge Tool Co., 433 Mt. Elliott Ave., Detroit, Mich. Paper cutting and specialty knives.

Detroit Numbering Machine Co., 535 Bates St., Detroit, Mich. Dealers and repairers of numbering machines; mfrs. of rubber stamps.

DeVilbiss Co., The, 300 Phillips Ave., Toledo, O. Offset preventive spray.

Dexter Folder Co., 28 W. 23rd St., New York, N. Y. Mfrs. of folding machines, sheet feeders, insetting machines, Cross feeders and Christensen stitcher feeders, bundling presses and trimmers.

Dickinson, C. W., Jr., 321 Cortland St., Belleville, N. J. Mfrs. of banknote machinery.

Dilkes, C. E. & Co., 6 Dawson St., Newark, N. J. Mfrs. of small printing machine for printing letters on cards; machinery and supplies.

Dill & Collins, Inc., Richmond and Tioga Sts., Philadelphia, Pa. Book, offset, writing, cover, music and specialty papers.

Disston Henry, & Sons, Inc., Tacony, Philadelphia, Pa. Cutting knives, blades and saws.

Division Lead Co., 836 W. Kinzie St., Chicago, Ill. Composing and stereotype metals.

Dixon, J. G., 333 S. Clinton St., Chicago, Ill. Printing press accessories, attachments, repairs, service.

Dixon, Joseph, Crucible Co., Jersey City, N. J. Graphite and graphite products.....145

Dixon, Norval H., & Co., 345 Poplar Rd., Indianapolis, Ind. Parts and supplies for intertypes and linotypes.

Doepel, J. E., Co., 623 Cherry St., Philadelphia, Pa Automatic sheet cutting, glueing and pasting machines.

Dom, G. C., Supply Co., 125 E. Pearl St., Cincinnati, O., Dealers in engravers', electrotypers' and lithographers' supplies.

Dorsey Printers Supply Co., Inc., 88 Hernando St., Memphis, Tenn. Mfrs. and dealers in electrotype, stereotypes and printers' supplies.

Douthitt Corp., 650 W. Baltimore Ave., Detroit, Mich. Mfrs. of photoengraving device, supplies and repairs.

Doyle, J. E., Co., 310 Lakeside Ave., N. W., Cleveland, O. Mfrs. of electric sheet heaters, vacuum sheet cleaner, ink distributor and vibrating roller, metallic ink, ink driers and compounds, Miehle vertical transfer table.....161

Duplex Printing Press Co., Battle Creek, Mich. Mfrs. of newspaper presses and stereotype machinery.....8

DuPont, E. I. deNemours, Co., Wilmington, Del. DuPrene.

Durant Mfg. Co., 1925 N. Buffum St., Milwaukee, Wis. Counters for presses.

Durbrow & Hearne, 12 Wooster St., New York, N. Y. Dealers in bookbinding and stereotyping machinery and supplies.

Duro Overlay Process, 2530 N. 69th St., Wauwatosa, Wis. Overlay process and ink scale.

Dust-Less Equipment Co., 4021 19th St., N. E., Washington, D. C. Rubber roller grinding and finishing equipment, and roller setting gauges.....137

E

Eagle Printing Ink Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y. Letterpress, lithographic, offset inks, varnishes, dryers and reducing compounds.

Eastern Mfg. Co., 500 Fifth Ave., New York, N. Y. Bond, cover, ledger, vellum, wedding and writing papers and bristols.

Eastern Newspaper Supply, Corona, N. Y. Stereotype supplies.....155

Eastman Kodak Co., Rochester, N. Y. Photoengraving, offset and gravure equipment and supplies, kodapak transparent cellulose wrapping tissue.

Easton Car & Construction Co., P. O. Box 224, Easton, Pa. Paper handling trucks, tractors and trailers; track and turntables.

Economy Baler Co., Ann Arbor, Mich. Baling press.

Economy Chucks, Inc., 203 S. Dearborn St., Chicago, Ill. Chucks.

Economy Engineering Co., 2653 W. Van Buren St., Chicago, Ill. Trucks.....161

Econo Products, Inc., 1346 University Ave., Rochester, N. Y. Molded rubber printing plates, process, materials.

Edes Mfg. Co., Plymouth, Mass. Engravers zinc and copper plates.....147

Electric Heating Co., 8616 Madison Ave., Southgate, Cal. Bending machine manufactured by others; metal feeders and pots.

Electro-Hydraulic Machinery Co., The, 1025 Sweitzer Ave., Akron, O. Direct pressure molding machines, drying tables, casting machines.....34

Elgin Bending Machine Co. 406 Center St., Elgin, Ill. Mfrs. of bending machine for electrotypers and stereotypers, shaving machine and matrix making machine.

Elliott Addressing Machine Co., Cambridge, Mass. Mfrs. of addressing printing machine.

Ellsworth Machine Co., 1821 Central St., Kansas City, Mo. Newspaper stuffing machines.

Embossograph Process Co., Inc., 251 William St., New York, N. Y. Mfrs. of embossing machines, heaters, compounds and inks.

Emerson Electric Mfg. Co., The, 2038 Washington Ave., St. Louis, Mo. Motors—3 h.p. and smaller, a.c. and d.c.

Empire Metal Co. 820 E. Water St., Syracuse, N. Y. Liontype, monotype and stereotype metals.

Empire Type Foundry, Delevan, N. Y. Mfrs. of metal type.

Empire Wood Type and Engraving Co., 252 Water St., New York, N. Y. Mfrs. of wood type.

Ensign-Reynolds, Inc., 4 Irving Place, New York, N. Y. Stereotype furnaces.

Esleeck Mfg. Co., Turners Falls, Mass. Thin papers.

Esterline-Angus Co., The, P. O. Box 596, Indianapolis, Ind. Recording and transformer instruments, control relays.

Eureka Photo Mechanical Equip., Inc., 350 W. 31st St., New York, N. Y. Mfr. of photo-composing machines and plate whirlers to order.

Ever Ready Label Corp., 141 E. 25th St., New York, N. Y. Labels.

Ever Ready Machinists, Inc., 137 W. 19th St., New York, N. Y. Hand lever cutter, steel chases, cutting sticks, feedboards.

Ewald, L., Co., 174 W. Annapolis, St. Paul, Minn. Mfr. of line-composing machine plunger cleaner and pot crucible well brush.

Excello Machine Co., 412 Umatilla St., Grand Rapids, Mich. Machinists.

F

Fairbanks, Morse & Co., 900 S. Wabash Ave., Chicago, Ill. Air and ink pumps.

Farnsworth, John, Bourse Bldg., Philadelphia, Pa. Dealer in new and used machinery.

Fate-Root-Heath Co., The, 234-269 High St., Plymouth, O. Mfrs. of Plymouth knife grinders.

Findley Co., F. G., The, 1243 N. Tenth St., Milwaukee, Wis. Pastes and glues of all kinds; envelope gums.

Fitzpatrick Felt Mfg. Co., 1971 E. 79th St., Cleveland, O. Printing press cork blankets.....117

Flexo Mfg. Co., Inc., 35 Howard St., New York, N. Y. Raising machine.

Flexideal Dry Mat Co., 21 West St., New York, N. Y. Dry mats.....132

Flint, Howard, Ink Co., Clark Ave. & M.C.R.R., Detroit, Mich. All kinds of printing inks.....11

Foley Mfg. Co., 11 Main St., N. E., Minneapolis, Minn. Mfrs. of saw sharpeners.

Force & Company, Wm. A., 105 Worth St., New York, N. Y. Mfr. of numbering machines, distributor of stamps and supplies.....95

Fort Stanwix Mfg. Co., Rome, N. Y. Bottle cap machinery.

Franklin Printers Supply Co., 608 Cherry St., Philadelphia, Pa. Dealers in new and used machinery and equipment.

Fraser Industries, Inc., 111 W. Washington St., Chicago, Ill. Bond, ledger and safety paper; paper specialties.

Frazier Processes, Inc., 50 Church St., New York, N. Y. New processes in printing and bookbinding.

Freeman & Co., Samuel T., 1808 Chestnut St., Philadelphia, Pa. Auctioneers.

Fuchs & Lang Mfg. Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y. Letterpress, gravure, lithographic and offset inks, drier, compounds and varnishes.

Fuller, E. C., Co., 28 Reade St., New York, N. Y. Dealers in bookbinding machinery; repairs and rebuilds bindery machinery.

G

Gane Bros. & Lane, Inc., 1335 W. Lake St., Chicago, Ill. Dealers in bookbinders supplies; embosser mf'd for them.

Gardner, P. A., Inc., 709 Pine St., St. Louis, Mo. Gold stamping press and supplies.

Gegenheimer, Inc., Wm., 78 Roebling St., Brooklyn, N. Y. Mfrs. of Baldwin press washers; rebuilder of lithograph machinery; dealers in new and used machinery.

Gelb Co., Joseph, 250 W. 54th St., New York, N. Y. Lamps and mfrs. and dealers in photoengraving machinery.

General Electric Co., 1 River Rd., Schenectady, N. Y. Printing machinery motors and equipment.....64-65

General Manifold & Printing Co., Franklin, Pa. Carbon and multiplex paper manufacturers.....161

General Printing Ink Corp., 100 Sixth Ave., New York, N. Y. Mfrs. of all kinds of printing inks; offset, plate making and printing press equipment.

General Printing Machinery Corp., 29 Ryerson St., Brooklyn, N. Y. Sheet-fed gravure presses and supplies.

General Tire & Rubber Co., Akron, O. Rubber printers rollers, cutting rubbers.....136

Gerrard Co., The, 2915 W. 47th St., Chicago, Ill. Newspaper bundling and tying machines.

Gibbe-Brower Co., Inc., 21 E. 40th St., New York, N. Y. Dealers in printing machinery.

Gilbert Paper Co., Menasha, Wis. Bond, cover, ledger, safety and writing papers, bristols.

Gilmer Co., L. H., Tacony, Philadelphia, Pa. Belts, belting, press tape.

Gimmel Bros., Inc., 19 Second St., San Francisco, Cal. Dealers in printing machinery and equipment.

Globe-Wernicke Co., The, Cincinnati, O. Office furniture and filing equipment.

Globe Wood Type Co., 2704 N. Front St., Philadelphia, Pa. Wood type.

Godfrey Roller Co., 211-15 N. Camac St., Philadelphia, Pa. Composition and rubber rollers; padding compound and rubber roller grinding for the trade.

Goodrich Co., B. F., The, 434 S. Main St., Akron, O. Rubber rollers, blankets, air tubing, belts, insulators. Vulcanizers for rubber plate making.....10

Goodyear Tire & Rubber Co., Inc., The, Akron, O. Lithographic rubber rollers and blankets, newspaper rubber rollers and blankets, cutting rubbers and felt blankets .36

Gorton Co., Clifford W., 242 George St., New Haven, Conn. Machinery dealers.

Goss Printing Press Co., 1535 S. Paulina St., Chicago, Ill. Mfr. newspaper printing presses. Inside front cover and Page 3

Gowdy Mfg. Co., Inc., 45 N. Division St., Buffalo, N. Y. Mfrs. of automatic envelope press.

Graphic Arts Accessories, 308 Marquette Bldg., Detroit, Mich. Double rolling device for Miehle vertical press.

Graphic Arts Laboratories, 201 N. Wells St., Chicago, Ill. Halftone overlay.

Graphic Photo Engraving Co., Inc., 207 W. 25th St., New York, N. Y. Patented screens.

Grauert, R. W., 66 W. Broadway, New York, N. Y. Gold, aluminum and colored leaf.

Green's Paste Works, 2912 S. Salina St., Syracuse, N. Y. Padding compound and specialty glues.

Griffin, Campbell, Hayes, Walsh, Inc., 50 E. 21st St., New York, N. Y. Aluminum Binding Screws.....161

Griffiths, John, Co., Inc., 145 Nassau St., New York, N. Y. Dealers in used machinery for newspaper and magazine job offices.

Grove, Jacob R., Co., 3708 Fulton St., N.W., Washington, D. C., Mfrs. of "No-Slip" gauge pins and grippers.

H

Hackensack Specialty Mfg. Co., The, 200 Atlantic Ave. Hackensack, N. J. Tweezers.

Hacker Manufacturing Co., 320 S. Honore St., Chicago, Ill. Mfrs. of test presses and block levelers.

Hackleman, C. W., 34 N. Ritter St., Indianapolis, Ind. Halftone screen and measuring device.

Hall, Norman F., Co., 167 First St., San Francisco, Cal. Dealer in supplies and wholesale paper.

Hallanger Oiler Sales Div. of Davis Tool & Engineering Co., 6481 Epworth Blvd., Detroit, Mich. Feed lubricator.

Haloid Co., The, Haloid St., Rochester, N. Y. Negative material and chemicals.

Hamilton Mfg. Co., 1315—18th St., Two Rivers, Wis. Mfrs. of composing room furniture, wood type, cabinets, cases, work benches, etc.

Hamilton Tool Co., The, 220 N. B St., Hamilton, O. Presses, stereotype machinery, slitters, spoolers, lift trucks.....151-158

Hammer Dry Plate Co., Ohio & Miami Sts., St. Louis, Mo. Plate making, film, negative materials.

Hammermill Paper Co., Erie, Pa. Bond, cover, ledger, offset, safety and writing papers; bristols.

Hammond Machinery Builders, Inc., 1604 Douglas Ave., Kalamazoo, Mich. Stereotype equipment, routers and router planers.....89

Hampton Auld, Inc., 104-106 Verona Ave., Newark, N. J. Letterpress inks; ink specialties; varnishes and driers; gold and silver inks.

Hansen H. Alfred, 610 Atlantic Ave., Boston, Mass. Mfr. of brass specialties; dealer in supplies.

Hardened Publication Headings, 161 Grand St., New York, N. Y. Steel magazine and newspaper headings.

Harris Seybold Potter Co., 4510 E. 71st St., Cleveland, O. Mfrs. of offset, typographical, gravure presses, cutters, trimmers, knife grinders, drills, perforators, wire stitchers, embossers, die presses, punches, etc..26-27

Hart, William C., Co., Inc., 137 Greene St., New York, N. Y. Printers' rollers, ball bearing roller cores, covered rollers, specialty glues and paste.

Hartnett, R. W., Co., 1025 Cherry St., Philadelphia, Pa. Dealer in presses, binding machinery and supplies—repairer and mfr. of small machinery.

Hastings & Co., 819 Filbert St., Philadelphia, Pa. Gold leaf.

Hawthorne Paper Co., Kalamazoo, Mich. Bond, ledger, offset and specialty papers.

Heidelberg Printing Machinery Corp., 228 E. 45th St., New York, N. Y. Dealers and importers of printing machines and sheet fed presses.....135

Heinrich, H. H., Inc., 200 Varick St., New York, N. Y. Rubber plate making equipment; paper bag machinery; aniline and multi-color specialty presses.

Heinsohn, A. E., 1443 Blake St., Denver, Colo. Dealer in machinery, supplies, ink and varnish; repairer.

Helmold, J. F., & Bro., Inc., 1462 Custer St., Chicago, Ill. Rule benders and cutters; perforating, cutting and creasing rule; round hole punches.

Hempel, H. A., 55 Baynes St., Buffalo, N. Y. Mfr. of quoins and keys.

Hennigan, J. D., Co., Inc., 549 W. Fulton St., Chicago, Ill. Dealers in new, used and rebuilt machinery.

Henschel, C. B., Mfg. Co., 229 W. Mineral St., Milwaukee, Wis. Dealers in imported bronzing machines and equipment—Mfrs. of cigar boxes and labels—finisher for litho. trade.

Herrick, Wm. C., Ink Co., Inc., 325 W. 34th St., New York, N. Y. Letterpress, lithographic, offset inks, driers, varnishes.....156

Heston & Anderson, Fairfield, Iowa. Printers' metal saw.

Hickok, W. O., Mfg. Co., Harrisburg, Pa. Mfrs. of knife grinders, shears, paper presses, numbering machines, backers, heaters, stabbing machines, tables, feeders, benches, ruling machines, etc.

Hill-Hentschel Co., 301 S. Vandeventer Ave., St. Louis, Mo. Letterpress, litho and offset inks.

Hisey-Wolf Machine Co., The, Cor. Marshall & Colerain Aves., Cincinnati, O. Cutter grinder and drills.

Hobbs Mfg. Co., 26 Salisbury St., Worcester, Mass. Die presses.

Hoe, R., & Co., 138th St. and East River, New York, N. Y. Mfrs. of newspaper printing presses, stereotype machinery, etc. 18-ABCD

Hoerth, A. J., & Co., 608 S. Dearborn St., Chicago, Ill. Plate hooks, Miehle vertical transfer table, ink can lid lifter.

Hoff, Leslie D., 52 N. Arlington Ave., East Orange, N. J. Mfr. of combination slitter, scorer and perforator for cylinder presses.

Hoke Engraving Plate Co., 1024 Park Ave., St. Louis, Mo. Chalk plate making materials.

Hollingsworth, William, Machine Co., 227 Holliday St., Baltimore, Md. Bookbinders machinery, varnishing machines and driers, air pumps.

Holmstrom, Axel, Brown Bldg., 4th & Chestnut Sts., Philadelphia, Pa. Etching machines.

Holyoke Card & Paper Co., Springfield, Mass. Cover papers, cardboard and coated specialties.

Hood-Falco Corp., 225 Varick St., New York, N. Y. Dealer in used machinery and equipment.

Hoole Machine & Engraving Works, Inc., 30 Main St., Brooklyn, N. Y. Numbering machines for bookbinders.

Hooper, F. X., Co., Glen Arm, Md. Printing and box making equipment for corrugated fiber, wood and metal. Web offset press.

Horn & Norris, Inc., 2729 Prospect Ave., Cleveland, O. Ernst lensic screen for photoengravers, offset, lithography and rotogravure.

Horton Mfg. Co., 3016 Univ. Ave., S.E., Minneapolis, Minn. Variable speed printing press pulleys.

Hotchkiss, E. H., Co., Norwalk, Conn. Stapling and stitching machines.

House, Chas. W., & Sons, Inc., 505 Fifth Ave., New York N. Y. Cylinder and press blankets, tapes and webbing.

Howard Paper Co., Urbana, O. Sulphite bond, ledger, writing and mimeograph papers.....151

Hoy, Frank C., 139 E. 3rd St., Cincinnati, O. Offset and static eliminator.

Hoyt, Arthur S., Co., Inc., 175 Fifth Ave., New York, N. Y. Wheat paste in powder form.

Huber, J. M., Inc., 460 W. 34th St., New York, N. Y. News, gravure, letterpress and litho inks, driers, compounds and specialties 66-ABCD

Hudson-Sharp Machine Co., Green Bay, Wis. Presses for printing paper specialties. Die inking units for embossers.

Huebner Laboratories, 202 E. 44th St., New York, N. Y. Offset and gravure plate making processes. Colorvalhuemeter, dotvalhuemeter for plate making purposes.

Hughes Machinery Co., 44 Beauvoir Ave., Summit, N. J. Press for imprinting and numbering bank checks.

Hunt, Robert W., Co., 175 W. Jackson Blvd., Chicago, Ill. Engineers.

I

Ideal Roller & Mfg. Co., 2512 W. 24th St., Chicago, Ill. Ideal process rubber and lithographic rollers, rubber tanning rollers, specialty rubber rollers, lithographic press blankets, negative film holders) especially designed rollers.....69

Illinois Testing Laboratories, Inc., 420 N. LaSalle St., Chicago, Ill. Portable and stationary pyrometers..147

Imperial Type Metal Co., Chicago-New York-Philadelphia-Los Angeles. Composing, stereotype and electrotype metals. Metal flux and composing machinery mold polish.....67

Imprint Matrix Co., Moravian Falls, N. C. Composing machine special matrices to order.

Indiana Chemical & Mfg. Co., 517 S. Alabama St., Indianapolis, Ind. Cleaning compounds, driers, reducers, varnish, specialties, metal cleaners and fluxes, offset preventing equipment.

Inman Mfg. Co., Inc., Amsterdam, N. Y. Tray and setting up machines for printing and forming paper boxes.

International Engineering Works, Inc., Farmingham, Mass. Steel furniture, shelving, lockers, fountains, washbowls, steel boilers.

International Intaglio Corp., 45 W. 45th St., New York, N. Y. Importers of machinery and supplies.

International Paper Box Mach. Co., 315 Main St., Nashua, N. H. Mfr. of printing machine and rapid folding box machine.

International Paper Co., 220 E. 42nd St., New York, N. Y. Bond, book, cover, ledger, manila, newsprint, offset poster and rotogravure paper.

International Press Cleaner & Mfg. Co., Inc., 112 Hamilton Ave., Cleveland, O. Mfr. of press cleaner and dampening device for litho. presses.

International Printing Ink Corp., The, 75 Varick St., New York, N. Y. Letterpress, gravure, offset, lithographic inks, compounds, driers, reducers. Industrial finishes, artists' materials.....48-49

Intertype Corp., 360 Furman St., Brooklyn, N. Y. Mfr. of Intertype composing machines, matrices, parts, supplies, and accessories.....Outside back cover

Iron Fireman Mfg. Co., 3170 W. 106th St., Cleveland, O. Automatic coal burners for stereotype furnaces.

Irwin, H. G., Lumber Co., Erie Pa. Blocking, cutting sticks, reglets, furniture, drawing and router boards.

J

Jacques, John, & Son, 93 Webster St., Worcester, Mass. Mfrs. of shears for bookbinders and printers, fine card cutting machine, slitting, shade cutting and creasing machinery.

Jampol Co., The, 11 Park Place, Park Murray Bldg., New York, N. Y. Newspaper plant material handling equipment.....30

Jennings Hillory, 619 N. Beech St., Little Rock, Ark. Dealer in Babcock presses.

Jennison-Wright Co., The, 2463 Broadway, Toledo, O. Wood block flooring.

Johnson, Charles Eneu, & Co., 10th & Lombard Sts. Philadelphia, Pa. Printing inks for all processes, driers varnishes, reducers and compounds.

Johnson-King Co., 709 W. 49th Place, Chicago, Ill. Letterpress, lithographic, offset, rotogravure, copper plate and steel die inks, varnishes, driers and intaglio engraving supplies.

Johnson, Wm. A., Co., Inc., 72 Columbia St., Seattle, Wash. Padding compounds and glue.

Johnstone Electric Co., Inc., 538 S. Clark St., Chicago, Ill. Mfrs. and dealers in photo engravers machinery and supplies.

Johnston Paper Co., The, 321 Sycamore St., Cincinnati, O. Makeready tissue. Finishing for the trade

Jones, James H., Corp., 430 S. Green St., Chicago Ill. Dealers in bookbinding machinery.

Jorson & Carlson Co., Inc., 707 S. Dearborn St., Chicago, Ill. Knife grinders.

Joslin, A. D., Mfg. Co., Manistee, Mich. Time recording devices.

Judson Type, Inc., 119 W. 23rd St., New York, N. Y. Reproduction of American and foreign type faces, metal rules and spacing materials.

Justrite Mfg. Co., 2061 Southport Ave., Chicago, Ill. Safety and oily waste cans

K

Kalamazoo Paper Co., Kalamazoo, Mich. Book, litho, offset and specialty papers.

Kastens, Henry, Co., 418 W. 27th St., New York, N. Y. Time stamps.

Kay Bee Sealing Service, 427 W. 42nd St., New York, N. Y. Mfrs. of broadside and circular sealing machine.

Kellett Co., The, 545 S. Dearborn St., Chicago, Ill. Knife grinders.

Kelly, E. J., Co., 521 Harrison Ct., Kalamazoo, Mich. Mfrs. of printing inks and compounds for letterpress and offset-litho.

Kelsey Press Co., The, 62 Colony St., Meriden, Conn. Mfrs. of small hand printing press, type founders and dealers in new and used machinery.

Kemp, C. M., Mfg. Co., The, 405 E. Oliver St., Baltimore, Md. Gas heating equipment for composing and stereotype machinery and remelting pots.....51

Kemp, W. H., Co., 350 Hudson St., New York, N. Y. Bronze powders and gold leaf.

Kemper, R. E., North Chatham, N. Y. Mfr. of type-hi gauge.

Kent Machine Works, Inc., 37 Gold St., Brooklyn, N. Y. Ink mills and mixers.

Keystone Rubber Co., 180 N. Wacker Drive, Chicago, Ill. Keyboard rubber rolls, suction and gathering cups, air tubing, etc.

Kimberly-Clark Corp.,Neenah, Wis. Book, gravure, cover, school paper.

Kimble Electric Co., 2011 Hastings St., Chicago, Ill. Motors and controllers for all graphic arts machines. 157

Kienzle & Merrick Mfg. Co., The, 1214 S. 3rd St., Minneapolis, Minn. Hand feed and automatic cylinder presses. Roller racks.

Knowlton, M. D., Co., 28 Industrial St., Rochester, N. Y. Box and carton, package and paper finishing machinery.

Kohl & Madden Printing Ink Co., 731 Plymouth Ct., Chicago, Ill. Letterpress, lithographic, offset, gravure inks, varnishes, compounds and driers.

Kohler Bros., 1072 Wrigley Bldg., Chicago, Ill. Mfrs. of pasters, winders, reels, etc.

Korfund Co., Inc., The, 4815 Thirty-Second Place, Long Island City, N. Y. Cork plates for isolation of printing press vibration.

Krasilovsky, & Bros., Inc., 216 Centre St., New York, N. Y. Printing plant machinery mover. 161

Krause, Karl, U. S. Corp., 55-57 Vandam St., New York, N. Y. Importers of printing machinery. 143

Kwikprint Co., The, 605 W. Washington Blvd., Chicago, Ill. Goldstamping machine, brass type, foils.

L

Lake Erie Stereotype Equipment Co., Kenmore Station, Buffalo, N. Y. Hydraulic matrix press and plate milling machine. 73

LaMotte Chemical Products Co., McCormick Bldg., Baltimore, Md. Comparators for determining acidity and alkalinity.

Lamson Co., The, 250 Lamson St., Syracuse, N. Y. Pneumatic dispatch tubes, conveyors, chutes and elevators.

Lanston Monotype Machine Co., 24th & Locust Sts., Philadelphia, Pa. Mfrs. of negative holders, photo composing machines, register frames, chases, tables, cabinets and type and material making machines. Dealers in used machinery manufactured by others. 18

Latham Auto Registering Co., Inc., 608 S. Dearborn St., Chicago, Ill. Mfr. of registering devices for presses, etc., hooks and bases.

Lavery, Charles, 69 E. Long St., Columbus, O. Dealer in machinery and supplies.

Lawson, E. P., & Co., 424 W. 33rd St., New York, N. Y. Dealers in bookbinding machinery.

Lee Paper Co., Vicksburg, Mich. Bond, ledger and offset papers, vellum and paper specialties.

Lees, Hervey, 212 N. Chevy Chase Drive, Glendale, Cal. Sales distributor Type-O-Writer.

Lehmann Co., J. M. Inc., 248-250 W. Broadway, New York, N. Y. Ink mills.

Leiman Bros., Inc., 146 Christie St., Newark, N. J. Pressure and vacuum air pumps and specialty blowing equipment. 160

Lester & Wasley Co., Inc., The, 282 Franklin St., Norwich, Conn. Specialty paper scoring, creasing and slitting machinery.

Levey, Fred'k H., Co., Inc., 59 Beekman St., New York, N. Y. Letterpress, lithographic, offset, gravure, inks, driers, compounds and varnishes. 29

Levy, Max, & Co., Wayne Ave. & Berkley St., Philadelphia, Pa. Mfrs. of halftone screens, cameras, stands and printing frames. Dealers in lenses, lamps, baths and whirlers.

Levison Manufacturing Co., 1540 California St., San Francisco, Cal. Sectional metal bases and clamps.

Levoy, B. M., Inc., 608 Fifth Ave., New York, N. Y. Magnifiers.

Lewis-Shepard Co., 125 Walnut St., Watertown, Mass. Lift trucks, portable cranes and specialty handling appliances.

Liberty Folder Co., Sidney, O. Mfrs. folding machines and automatic feeders.

Lindbladh Corp., The, 40 Court St., Boston, Mass. Mfrs. of paper ruling machines and automatic sheet feeding machines.

Lindner, The E. G., Co., 419 Wall St., Los Angeles, Cal. Dealer in used printing and litho. machinery.

Linecasting Mold Mfg. Co., 108 W. Lake St., Chicago, Ill. Molds.

Link-Belt Co., 307 N. Michigan Blvd., Chicago, Ill. Chain and roller drives. Variable speed transmission units.

Linograph Corp., 107 Scott St., Davenport, Iowa. Mfrs. of linotype and casting machinery, supplies, parts and accessories.

Linotype Maintenance Co., 237 Lafayette St., New York, N. Y. Machinists—Linotype, Intertype parts and equipment. 144

Linotype Parts Corp., 203 Lafayette St., New York, N. Y. Mfrs. of composing room and typesetting machinery, supplies, parts and accessories. 148

Linotype Supply Co., 86 Walker St., New York, N. Y. Mfrs. composing room and typesetting machines, supplies, parts and accessories, motors and repairs.

Linzer, David, & Sons, Inc., 10 Astor Place, New York, N. Y. Brushes for printers and engravers.

Logemann Bros., Co., Inc., 3150 W. Burleigh St., Milwaukee, Wis. Mfrs. of baling presses and die cutting machines.

Lowe Paper Co., Ridgefield, N. J. Coated boards, railroad board, tough check, folding boxboard and laminated specialties.

Lox Mfg. Co., Merriam, Kan. Adhesives and solders.

Loyd, John, Co., 87 Walker St., New York, N. Y. Specialty knives and blades.

Loyster, James A., Cazenovia, N. Y. Semi-rotary combination color press. Special presses.

Ludlow Typograph Co., 2032 Clybourn Ave., Chicago, Ill. Mfrs. of casting machine, matrices, type, slug, and rule cast machine, molds and equipment. 7

Ludwig-Duell Co., 30 Beekman St., New York, N. Y. Dealers in Monotype rules and borders.

M

M & L Type Foundry, 4001 Ravenswood Ave., Chicago, Ill. Mfrs. of type.

Macbeth Arc Lamp Co., 875 N. 28th St., Philadelphia, Pa. Mfrs. of arc lamps for graphic arts trade.

Maigne, O. J., Co., 356 Pearl St., New York, N. Y. Rollers for the graphic arts.

Makatag Manufacturing Corp., Reading, Mass. Mfrs. of patch-eyeletting machines.

Make-Ready Sales Co., Wellesley, Mass. Electric make-ready fixture.

Mallinckrodt Chemical Works, 2nd & Mallinckrodt Sts., St. Louis, Mo. Chemicals for lithography, photoengraving and photography.

Manhattan Rubber Mfg. Div., of Raybestos-Manhattan, Inc., 61 Willett St., Passaic, N. J. Rubber printing rollers; belting.

Manzel Bros. Co., 315 Babcock St., Buffalo, N. Y. Mechanical lubricators.

Marathon Electric Mfg. Corp., P. O. Box 440, Wausau, Wis. Electric motors; grinders, polishers and buffers; ventilating and exhaust fans.

Margach Manufacturing Co., Inc., 213 Centre St., New York, N. Y. Mfrs. of feeders for typesetting machines, work holders for saw trimmers. Repair Linotype machines. Dealers in parts. 97

Marresford, Wm. F., Inc., College & Highland Aves., Niagara Falls, N. Y. Mfrs. of bookbinders machinery, lift trucks and tipping machines.

Marsh Stencil Machine Co., Belleville, Ill. Stencil cutting equipment and supplies.

Martin Machinery Corp., 50 Church St., New York, N. Y. Dealers in bookbinding machinery

Mason-Moore-Tracy, Inc., 30 E. 4th St., New York, N. Y. Dealers in used printing machinery. Machinists.

Master Etching Machine Co., Drexel Bldg., Philadelphia, Pa., Mfrs. of etching machines and photoengraving equipment.

Matrix Contrast Corp., 4005 Empire State Bldg., New York, N. Y. Mfrs. of process for applying contrast to linecasting machine matrices. 38

Maxson Automatic Machinery Co., Westerly, R. I. Delivery, counter and marker.

Maxwell Paper Co., The, Franklin, O. Bond, offset and writing papers.

McAdams, John, & Sons, 978 Kent Ave., Brooklyn, N. Y. Mfrs. of ruling, feeding and paging machines.

McKinley Litho Supply Co., 1620 John St., Cincinnati, O. Dealers in printing machinery and supplies. Mfrs. of distributing rollers.

McLauthlin, Geo. T., Co., Inc., 120 Fulton St., Boston, Mass. Mfrs. of paper cutters.

Mead, G. H., Co., The, 11 W. Monument Ave., Dayton, O. Newsprint.

Megill, Edward L., Co., 761 Atlantic Ave., Brooklyn, N. Y. Mfrs. of printing press attachments—gauge pins, gauges, gripper fingers. 160

Meisel Press Mfg. Co., 942 Dorchester Ave., Boston, Mass. Mfrs. of printing presses—bed, platen and rotary—slitting and rewinding machine, sheet cutters and special machinery. 149

Memmler, Eugene, Box 697, Arcade Bldg., Los Angeles, Cal. Mfr of "Gene" roller gauge.

Mentges Folder Co., The, Sidney, O. Mfrs. of newspaper folding machines, steel stands and display racks.

Merchant & Evans, Co., 2035 Washington Ave., Philadelphia, Pa. Metal.

Mergenthaler Linotype Co., 29 Ryerson St., Brooklyn, N. Y. Mfrs. of linotype machines, parts, matrices, type, and other devices. 47

Metals Refining Co., Hammond, Ind. Composing and stereotype metals; metal flux and type wash.

Meyer, John C., Thread Co., 1449 Middlesex St., Lowell, Mass. Bookbinders' thread.

Meyers Co., L. W., 1828 Milwaukee Ave., Chicago, Ill, Mfrs. of self adjusting roller backers for bookbinders.

Mick, W. K., Co., 500 Robert St., St. Paul, Minn. Mfr. of paper drill, general and special machinery.

Mid-States Gummed Paper Co., 2433 S. Damen St., Chicago, Ill. Gummed paper, decalcomania paper, cloth and paper tapes.

Mid-West Printers Machine Works, 610 Federal St., Chicago, Ill. Dealers in used printing machinery.

Miehle Printing Press & Mfg. Co., 14th St. and S. Damen Ave., Chicago, Ill. Mfrs. of two-revolution flat-bed presses, automatic job, offset, cutting and creasing presses, feeders, motors, etc. 31

Miles Machinery Co., 18 E. 16th St., New York, N. Y. Dealers in offset photographic, engraving, stereotype equipment—machinist.

Miller Paper Co., 80 Wooster St., New York, N. Y. Boards.

Miller Printing Machinery Co., 1117 Reedsdale St., Pittsburgh, Pa. Mfrs. of presses, saws, saw trimmers and other machinery. Also motors and electrical equipment. 9

Miller, The Walter W., Co., 557 E. Washington St., Indianapolis, Ind. Metal polish paste.

Milwaukee Printers Roller Co., 420 S. Fourth St., Milwaukee, Wis. Dealers in new and used and rebuilt printing machinery. Mfrs. of rollers.

Milwaukee Saw Trimmer Co., 612 E. Clybourn St., Milwaukee, Wisc. Mfrs. of cutting tools, precision and stereotype saws for printers and engravers. 6

Minnich Machine Works, Landisville, Pa. Baling presses, portable elevators.

Missouri Brass Type Foundry, 1620 N. 22nd St., St. Louis, Mo. Mfrs. of brass type and lettering pallet.

Missouri-Central Type Foundry, 701 E. Murdock Ave., Wichita, Kan. Mfrs. of type, feeders, saws, routers, casters and molders. Dealers in machinery and supplies.

Model Press Co., The, York, Pa. Dealers in type and supplies.

Mohr-Lino-Saw Co., 609 W. Lake St., Chicago, Ill. Mfrs. of lino slug saws.

Monarch Engineering & Mfg. Co., The, Curtis Bay, Baltimore, Md. Mfrs. of metal melting furnaces and printing machinery. 161

Monitor Controller Co., 51 S. Gay St., Baltimore, Md. Controllers and starters.

Monomelt Co., Inc., The, 1611 Polk St., N. E., Minneapolis, Minn. Mfrs. of electrical and gas units, trucks and metal handling equipment, monomelt machine and small mechanical items. 14

Monotype Machine Service Corp., 612 W. Lake St., Chicago, Ill. Monotype matrices, machine parts and repairing of molds.

Monsen, Thormod, & Son, Inc., 730 N. Franklin St., Chicago, Ill. Mfrs. of type and type transfers.

Montgomery & Bacon, Elizabeth & Railroad Sts., Towanda, Pa. Mfrs. of type, composing machine parts and supplies, casting boxes and magazines. 156

Mooney Space Band Cleaner Co., 4319 Parkman Ave., Schenley Farms, Pittsburgh, Pa. Space band cleaner.

Morgan Expansion Roller Truck Co., 1651 Cosmos St., Hollywood, Cal. Mfrs. of trucks, perforators and gauge pins.

Morgans & Wilcox Mfg. Co., Middletown, N. Y. Mfrs. iron and steel furniture, cabinets, paper cutters, proof presses and saw tables.

Morley Button Mfg. Co., 865 Islington St., Portsmouth, N. H. Dry mats. 155

Morrill, Geo. H., Co., 100 Sixth Ave., New York, N. Y. Newspaper, letterpress, lithographic and watercolor inks. 15

Morrison, J. L., Co., Div. Harris Seybold Potter Co., 4510 E. 71st St., Cleveland, O. Wirestitching machines.

Munising Paper Co., The, Munising, Mich. Bond, ledger, specialty papers.

Murphy, George, Inc., 57 E. Ninth St., New York, N. Y. Gravure press and materials.

Myers, E. G., 924 Santa Fe Bldg., Dallas, Texas. Dealer in new and used machinery. Rebuilds and repairs machinery.

Myover-Stryker & Co., Fredonia, Kan. Mfrs. of perforating attachment for Kelly presses.

N

Nagel-Ryan Co., 4363 Woodward Ave., Royal Oak, Mich. Automatic machinery for the graphic arts.

Nashua Package Sealing Co., Inc., Nashua, N. H. Package sealers and taper.

National Adhesives Corp., 320 Greenwich St., New York, N. Y. Adhesives.

National Bundle Tyer Co., 24 Adrian St., W., Blissfield, Mich. Tying and stringing machines.

National Matrix Co., 15 S. Frederick St., Baltimore, Md. Mfrs. of type and matrices.

National Printing Appliance Corp., 60 Hudson St., New York, N. Y. Klean-o-mat process. 19

Naz-Dar Co., 4014 N. Rockwell St., Chicago, Ill. Silk screen printing machines and supplies.

Nelson, C. B., & Co., 727 S. Dearborn St., Chicago, Ill. Mfrs. of saw trimmers and cost cutter saws, repairers of machinery, special machinery designed.

Nelson Roller Co., Tribune Tower, Chicago, Ill. Newspaper rollers.

New England Newspaper Supply Co., 164 Fremont St., Worcester, Mass. Press blankets, tympans, stereotype supplies.....Inside back cover

New Era Mfg. Co., 375 Eleventh Ave., Paterson, N. J. Mfrs. of flat bed and web-fed offset presses.

New Jersey Wire Stitching Mach. Co., 608 S. Second St., Camden, N. J. Mfrs. of wire stitchers and staplers.

Newspaper Publishers Supply Co., 1639 N. Lorel Ave., Chicago, Ill. Newspaper composing, pressroom and stereotyping supplies.....158

Newton's Machine Shop, 211 High Ave., Cleveland, O. Monotype parts and repairers of presses, linotypes and monotypes.....161

Niles & Nelson, Inc., 75 West St., New York, N. Y. Rubber printing rollers.....10

Nissenbaum, Irving, Inc., 114 W. 27th St., New York, N. Y. Dealers in new and used machinery, equipment and accessories.

Nolan Machinery Corp., 712 W. Liberty St., Rome, N. Y. Casters, mat molders, humidors and scorchers.

Nonpareil Sub-Chase Co., 268 First St., San Francisco, Cal. Mfrs. of chases for numbering machines.

No-Off-Set, 1420 Hepburn Ave., Louisville, Ky. Offset preventive.

Norma-Hoffmann Bearings Corp., Stamford, Conn. Bearings.....16-17

Norman, William A., 180 N. Michigan Ave., Chicago, Ill. Trucks and tackle.

Northwestern Electric Co., 408 S. Hoyne Ave., Chicago, Ill. Printing press motors; motors for other printing machinery.

Norton Molder Blanket Co., P. O. Box 268, Meadville, Pa. Molder blankets and fiber board.

Nuernberger, P. G., 655 S. Wells St., Chicago, Ill. Type molds, special molds, gauges and tools for typefounders.

Nutting Truck Co., Faribault, Minn. Floor trucks, casters and wheels.

Nygren-Dahly Co., 218 N. Jefferson St., Chicago, Ill. Mfrs. of perforators, embossers, numbering machines, drills, punches, etc.

O

Offen, B. & Co., 608 S. Dearborn St., Chicago, Ill. Mfrs. of humidifiers.

Ohio Knife Co., The, B & O Ry. & Dreman Ave., Cincinnati, O. Paper trimming knives.

Ohio Roller Co., 4408 Detroit Ave., Cleveland, O. Printers' rollers, trucks and cores.

Oil Fires, Inc., 363 Lexington Ave., New York, N. Y. Oil-fired stereotype pot.

Oilgear Co., 1301 W. Bruce St., Milwaukee, Wis. Pumps motors and transmission.

Omaha Folding Machine Co., 2009 Cuming St., Omaha, Nebr. Attached newspaper folder and circular folder.

Omaha Printers Supply Co., 1122 Harney St., Omaha, Nebr. Dealers in new machinery, linotype and monotype composition, type and composing room equipment.

Ortleb Machinery Co., 3818 Laclede St., St. Louis, Mo. Mfrs. of ink agitators, dealers in supplies, printers' machinists.

Osgood-Globe Corp., 33 Purchase St., Boston, Mass. Composition, rubber and synthetic rollers.

Ostrander-Seymour Co., The, 1874 S. 54th Ave., Cicero Station, Chicago, Ill. Mfrs. of machinery and equipment for electrotypers, stereotypers and photo-engravers, beveling machines, planers, drilling machines, proof presses, routers, saw trimmers.

O'Sullivan Linotype Composition Co., 47 West St., New York, N. Y. Slide rule for printers.

Oversewing Machine Co., 770 E. Washington Blvd., Los Angeles, Cal. Mfrs. of an oversewing machine for bookbinders.

P

Paasche Airbrush Co., 1911 Diversey Pkwy., Chicago, Ill. Mfrs. of "No-offset" process.

Pabich, W. R., 2855 N. Rockwell St., Chicago, Ill. Mfrs. of a non-offset process. Repairs and sells stitchers.....161

Pacific Printers Supply Co., Inc., 1220 S. Maple Ave., Los Angeles, Cal. Dealers in new and used machinery and supplies. Mfrs. of type, leads, slugs, rules and quads.

Page, Robert R., 225 E. 24th St., New York, N. Y. Mfr. of fountain dividers and magnifiers.

Parasin Printing Plate Co., Burke Bldg., Rochester, N. Y. Rubber composition plates for letterpress, oil or water color printing.

Parisian Novelty Co., 3510 S. Western Ave., Chicago, Ill. Celluloid finishing and celluloid advertising specialties.

Parks-Cramer Co., Fitchburg, Mass. and Charlotte, N. C. Air conditioning equipment.

Parry, S. R., 224 Mill St., Rochester, N. Y. Mfr. and dealer in printers', bookbinders' and paper box machinery.

Parsons Paper Co., Holyoke, Mass. Bond, ledger and linen papers, bristols.

Partlow Corp, The, 2 Campion Rd., New Hartford, N. Y. Gas, electric and temperature controls.

Patchen & Hoefler, 40 Aqueduct St., Rochester, N. Y. Dealers in printers' machinery and supplies; printers' machinists.

Patten Paper Co., Ltd., Appleton, Wis. Book and text papers.

Pavyer Printing Machine Works, 600 S. Broadway, St. Louis, Mo. Dealers in used machinery; printers' machinists.

Pease, The C. F., Co., 852 N. Franklin St., Chicago, Ill. Lamps for cameras and printing frames.

Peerless Roll Leaf Co., Inc., 911 New York Ave., Union City, N. J. Roll leaf feeding attachment, stamping presses, gold leaf.

Peninsular Paper Co., Ypsilanti, Mich. Cover and offset papers and colored specialties.

Perfection Products Co., 116 Earl St., Rochester, N. Y. Mfrs. of "Inkoff"; dealers in supplies.

Perfection Type, Inc., 141 E. 5th St., St. Paul, Minn. Mfrs. of type, supplies and accessories; printers' machinists.

Perkins, B. F., & Son, Inc., Holyoke, Mass. Paper testing instruments.

Pfau, Arthur C., 4756 Hamilton Ave., Cincinnati, O. Routers.

Philadelphia Thermometer Co., 915 Filbert St., Philadelphia, Pa. Type metal and industrial thermometers.

Photo-Engravers Supply Co., 716 W. Indiana Ave., Philadelphia, Pa. Complete line of photoengraving supplies.

Photo Half Tone Co., 5406 Winthrop Ave., Chicago, Ill. Ebolite process for making halftones.

Photo Litho Plate Graining Co., The, 1207 S. Highland Ave., Baltimore, Md. Zinc and aluminum plates.

Pine-Ihrig Machine Co., 36 Marion St., Oshkosh, Wis. Pumps.

Pioneer Mfg. Co., 1212 Jackson St., Toledo, O. Bench router, micrometer.....159

Pitman, Harold M., Co., 51st Ave. & 33rd St., Chicago, Ill. Mfrs. copper and zinc plates and supplies for photo-engraving and photolithography.

Pitney-Bowes Postage Meter Co., 757 Pacific St., Stamford, Conn. Postage meter machines.

Pittsburgh Monotype Composition Co., 401 Manufacturers Bldg., Pittsburgh, Pa. Composition for the trade.

Pittsburgh White Metal Co., 3116 Penn Ave., Pittsburgh, Pa. Composing, electrotype and stereotype metals.

Plastic Binding Corp., 732 Sherman St., Chicago, Ill. Binding process.

Pleger, John J., Co., 609 W. Lake St., Chicago, Ill. Mfrs. of ticket printing presses; bindery machinery.

Polygraphic Co. of America, Inc., 310 E. 45th St., New York, N. Y. One man photoengraving unit and photographic supplies.

Porte Publishing Co., 952 E. 21st South St., Salt Lake City, Utah. Franklin printing catalogue.

Post Manufacturing Works, 671 Diversey Pkwy., Chicago, Ill. Mfrs. of envelope printing presses.

Potdevin Machine Co., Inc., 1221 38th St., Brooklyn, N. Y. Mfrs. of paper bag machinery for making, printing, waxing, pasting, gumming and gluing. Drying oven, varnishing machine.

Powers Precision Lock-Up Furniture Co., 198 Mercer St., Jersey City, N. J. Composition lock-up furniture.

Practical Instrument Co., 2717 N. Ashland Ave., Chicago, Ill. Recording thermometers.

Precision Printers' Equipment Co., 102 E. Walnut St., Milwaukee, Wis. Lead and rule cutter, mitering machine, saw trimmer and miterer.

Premier Flong Co., 233 Broadway, Woolworth Bldg., New York, N. Y. Stereotype dry mats; mats for color work.

Prentiss, George W., & Co., 439 Dwight St., Holyoke, Mass. Bookbinders' wire.

Prescott, H. S., 238 Dwight St., Springfield, Mass. Letterpresslithographie, offset, inks.

Printers Equipment Mfg. Co., 1408 Adams St., Toledo, O. Composing room saw trimmers, lead-and-rule and paper cutters.....160

Printers Machinery & Supply Co., 533 W. Congress St., Detroit, Mich. Dealers in new and used machinery.

Printers Supply Corp., 1142 Maple Ave., Los Angeles, Calif. Printers' supplies.

Printers Supply Service, 719 S. Dearborn St., Chicago, Ill. Dealers in printers' supplies.

Printers Trading Post, 606 Broadway, Kansas City, Mo. Machinery dealers.

Printing Machinery Co., The, 436 Commercial Square, Cincinnati, O. Mfrs. of bases, diagonal blocks, furniture and sterling systems.

Printing Press Parts & Supplies, Inc., 225 High St., Boston, Mass. Dealers in parts and supplies.

Probert Typsetting Co, 211 S. Ludlow St., Dayton, O. Matrix reference cleaner for intertypes and linotypes.

Production Instrument Co., 1325 S. Wabash Ave., Chicago, Ill. Electric, mechanical and totalizing counters.

Q

Queen City Linotyping Co., 164 Ellicott St., Buffalo, N. Y. Composition for the trade.

R

Rader, Earl D., 420 Lexington Ave., New York, N. Y. Patent attorney.....144

Railway Express Agency, Inc., 230 Park Ave., New York, N. Y.....138

Rapid Electrotype Co., Cincinnati, O.

Rapid Roller Co., 2558 S. Federal St., Chicago, Ill. Canvas covered, composition, rotogravure and rubber rollers.

Read Machinery Co., York, Pa. Agitators, mixing machines for refining ink.

Redimat Sales Co., P. O. Box 453, Ft. Worth, Tex. Reverse stereotype process and supplies.

Redington, F. B., Co., 112 S. Sangamon St., Chicago, Ill. Mfrs. of counting machines.

Reeves Pulley Co., Columbus, Ind. Variable speed transmission.

Reid Bros. Co., Inc., 140 Elliott St., Beverly, Mass. Mfrs. of grinding machines and replacement parts for linotypes.....154

Reid, William, & Co., 2271 Clybourn Ave., Chicago, Ill. Dealers in machinery and tools) printers-machinists.....158

Reliable Printing Equipment Co., 357 Bangor Bldg., Cleveland, O. Dealers in supplies.

Reliance Electric & Engineering Co., Ivanhoe Rd., Cleveland, O. Motors.

Renz, Fred, & Son, 7025—83rd St., Glendale, New York, N. Y. Ruling machine mfrs.

Resilo-Plate Corp., 220 W. 19th St., New York, N. Y. Rubber printing plate material and tools. racks.

Revere Copper & Brass, Inc., 230 Park Ave., New York, N. Y. Anodes and brass.

Revolvator Co., State St. at Bergen Turnpike, North Bergen, N. J. Portable elevator, lift trucks and storage racks.

Reynolds Metals Co., 19 Rector St., New York, N. Y. Metal foil papers and paper board; aluminum bronze powders.

Rhodes, J. E., & Sons, 35 N. Sixth St., Philadelphia, Pa. Flat and round leather belting and supplies.

Rich & McLean, 18 Jacob St., New York, N. Y. Mfrs. of linotype specialties, magazines, molds and liners.

Richards, J. A., Co., 903 N. Pitcher St., Kalamazoo, Mich. Mfrs. of saws, tables, benders, creasers, etc. Paper box machinery, cutting forms and dies.

Riebe Quoin Co., The, 122 N. Lamon Ave., Chicago, Ill. Mfrs. of quoins.

Riegel Paper Corp., 342 Madison Ave., New York, N. Y. Tympan and specialty papers.....157

Rivett Lathe & Grinder, Inc., 20 Riverview Rd., Brighton, Mass. Lathes and press lubricators..... 23

Roberts, Lewis, Inc., 72 Union St., Newark, N. J. Letterpress, lithographic, offset and watercolor inks, varnishes and driers.

Roberts Numbering Machine Co., 694 Jamaica Ave., Brooklyn, N. Y. Mfrs. of numbering and dating machines and pencil pointers.

Robertson, A. W., 489 Eighth Ave., New York, N. Y. Buys and sells printing plants.

Robertson, R. R., 400 W. Madison St., Chicago, Ill. Mfrs. of cameras and equipment. Photoengraving and newspaper machinery.

Robinson, John T., Co., Hyde Park, Mass. Cardboard and lithographic cutting, scoring and creasing machines.

Rockaway Co., 5409 W. Vliet St., Milwaukee, Wis. Spaceband cleaning machine.

Rockwood Mfg. Co., Indianapolis, Ind. Pulleys, bases, belt dressing.

Rogers Isinglass & Glue Co., 210 Eastern Ave., Gloucester, Mass. Photoengraving glue and top enamel.

Rogers, Samuel C., & Co., Inc., 191 Dutton Ave., Buffalo, N. Y. Mfrs. of paper and linecasting machine knife grinding machines.....144

Rolled Plate Metal Co., 196-210 Van Brunt St., Brooklyn, N. Y. Alloy, copper and zinc plates.....142

Roosen, H. D., Co., 78 20th St., Brooklyn, N. Y. Letterpress, lithographic and rotogravure inks, varnishes and driers.

Roovers Bros., Inc., 3611 14th Ave., Brooklyn, N. Y. Pallet and plate presses.

Rosback, F. P., Co., 5th & Park Sts., Benton Harbor, Mich. Mfrs. of perforator, wire stitcher and punching machine.

Ross, Charles, & Son, Co., 148 Classon Ave., Brooklyn, N. Y. Ink mills and mixers.

Rotogravure Div. General Printing Ink Corp., East Rutherford, N. J. Rotogravure inks and supplies.

Rotogravure Engineering Co., 299 Marginal St., East Boston, Mass. Mfrs. of rotogravure presses.

Rouse, H. B., & Co., 2214 Ward St., Chicago, Ill. Mfrs. of band saws, cutters, miterers, composing sticks, paper lifts, conveyers, etc. 63

Royal, John & Sons, Straight & Essex Sts., Paterson, N. J. Mfrs. of photoengravers and electrotypers machinery.

Rulex Type Corp., 549 S. Wells St., Chicago, Ill. Type founders.

Russell Electric Co., 340 W. Huron St., Chicago, Ill. Glue pots, pyrometers, air conditioning equipment.

Russell, Products Co., 810 Sansom St., Philadelphia Pa. Stereotypers supplies 109

Russell Supply Co., Inc., 47 West St., New York, N. Y. Dealer in auxiliary distributor for Kelly presses.

Rutherford Machinery Co., Div. of General Printing Ink Corp., 100 6th Ave., New York, N. Y. Equipment and supplies for offset, lithography and photoengraving.

Ryan, E. G., & Co., 727 S. Dearborn St., Chicago, Ill. Dealers in offset, photo litho and photoengraving equipment and supplies.

S

Safety Electric Heater Co., Faribault, Minn. Glue warmers.

Sandberg Mfg. Co., 1949 Fulton St., Chicago, Ill. Cutting sticks, wood furniture.

Sandblom Steel Chase Co., 426 S. Clinton St., Chicago, Ill. Chases 152

Sands-Hesse Co., 2476 E. 13th St., Cleveland, O. Printers' composition rollers 161

Sands Roller Co., 2859 Detroit Ave., Cleveland, O. Printers' composition rollers.

Saranac Machine Co., 376 W. Main St., Benton Harbor, Mich. Carton printing, cutting, creasing presses.

Schroeter, J. H., & Bro., Inc., 223 Central Ave. S. W., Atlanta, Ga. Dealers in cutters, chases and bookbinders job backers, new and used printing machinery.

Scott, Walter, & Co., South Ave., Plainfield, N. J. Mfrs. color, newspaper, offset and rotogravure presses) cutting and creasing presses and stereo type machinery 87

Sebastian Lathe Co., The, Cincinnati, O. Lathes.

Selectasine Patents Co., 558 Sacramento St., San Francisco, Cal. Silk screen process presses.

Seneca Wire & Mfg. Co., Fostoria, O. Bookbinders stitching wire 161

Senefelder Co., Inc., The, 32 Greene St., New York, N. Y. Lithographic and letterpress inks; lithographic supplies.

Setter Bros., Inc., Cattaraugus, N. Y. Blocking wood

Sevigne, F. J., Machine Co., 41 Crown St., Nashua, N. H., Fruit, nut and carton printing machines and inks.

Seybold Machine Co., Div. of Harris Seybold Potter Co., 813 Washington St., Dayton, O Cutting machines and knives, grinding wheels and die cutting presses.

Sharp Tool Service Co., 5401 W. Lake St., Chicago, Ill. Knife grinders.

Shaw Machine & Tool Co., 1151 Temple St., Los Angeles, Cal. Mfrs. of stereotype machines.

Shawver Company, The, 21 W. Pleasant St., Springfield, O. Oval, circle, square and shear cutting machines.

Sheip, Henry H., Mfg. Co., Columbia Ave. & 6th St., Philadelphia, Pa. Blocking wood.

Sheridan, T. W. & C. B., Co., 129 Lafayette St., New York, N. Y. Mfrs. of embossing presses, cutters, die presses, stitchers, coverers, binders, etc., for bookbinders.

Showcard Machine Co., 1192 Merchandise Mart, Chicago, Ill. Showcard printing machines and supplies.

Siebold, J. H. & G. B., 47 Watts St., New York, N. Y. Letterpress, offset, lithographic inks, compounds, driers, varnishes.

Sigmund, Ullman Co., Div. General Printing Ink Corp., 100 6th Ave., New York, N. Y. Letterpress, gravure, offset, lithographic, doubletone inks, compounds, driers and varnishes.

Simcoe Mfg. Co., P. O. Box 5187, Logan, Philadelphia, Pa. Mfrs. of transformers, motors, static eliminators, heaters, sheet warmers, etc.

Simonds Saw & Steel Co., 470 Main St., Fitchburg, Mass. Paper cutter knives, cutting, creasing and perforating rule.

Simonds, Worden, White Co., Dayton, O. 114

Simonds, Worden, White Co., R. J. Dowd Knife Works, Div., Beloit, Wis. Paper cutting knives, planers.

Simplex Gold Stamping Press Co., 425 Fourth Ave., New York, N. Y. Gold, color and black specialty imprinting presses and supplies.

Simplex Time Recorder Co., Gardner, Mass. Job, cost and payroll recorders; time stamps.

Sinclair & Valentine Co., 11 St. Clair Pl., New York, N. Y. Letterpress, gravure, offset, lithographic inks, driers, compounds and varnishes.

SKF Industries, Inc., Front St. and Erie Ave., Philadelphia, Pa. Ball and roller bearings and transmission appliances 83

Sleight Metallic Ink Co., 538 N. 3rd St., Philadelphia, Pa. Letterpress, metallic, offset and die stamping inks.

Smith, Dudley S., 504 Bulletin Bldg., Philadelphia, Pa. Tympan paper and newspaper supplies 55

Smith, F. X., Co., 953 E. 93rd St., Brooklyn, N. Y. Mfrs. of chases, quoins, bars, keys and composing room supplies.

Smith & Winchester Mfg. Co., The, South Windham, Conn. Paper cutting machines, die cutting presses.

Smyth Mfg. Co., The, 9 Sigourney St., Hartford, Conn. Mfrs. of bookbinding machinery.

South Bend Lathe Works, 426 E. Madison St., South Bend, Ind. Lathes, including lathes for rubber roll grinding and polishing.

Southeastern Printers Supply Co., 267 Trinity Ave., S. W., Atlanta, Ga. Dealers in new and used presses. Rebuild and repair.

Southworth Machine Co., 30 Warren Ave., Portland, Me. Mfrs of punches, cornering machines, cutters, joggers and special machinery to order. Air conditioning equipment 153

Specialties Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y. Paasche "No Offset" spray.

Specialty Automatic Machine Co., 200 Boston Ave., Medford, Mass. Special printing presses.

Spiral Binding Co., 148 Lafayette So., New York, N. Y. Spiral making machines, punching dies and threading machines 130-131

Square D Co., Industrial Controller Div., 710 S. 3rd St., Milwaukee, Wis. Motor control.

Stahi Newspaper Supply Co., 417 Oregonian Bldg., Portland, Ore. Mfrs. of newspaper bases, mat formers and supplies 4-5

Standard Engineering Works, Pawtucket, R. I., Humidifying systems and controls.

Standard Engraving Equipment Co., 655 S. Wells St., Chicago, Ill. Photoengravers equipment and supplies 150

Standard Machinery Co., The, Mystic, Conn. Mfrs. of bookbinding machinery and special machinery to order.

Standard Paper Box Mach. Co., Inc., 115 Wooster St., New York, N. Y. Strip gluing machines.

Standard Printing Ink Co., Div. The International Printing Ink Corp., 1644 Providence St., Cincinnati, O. Letterpress, lithographic, offset and steel die inks, driers and varnishes.

Standard Process Corp., 734 W. Lexington St., Chicago, Ill. Mfrs. of rotogravure presses, grinding machines, transfer machines, and special machinery. Dealers in machinery.

Star Rule Co., The, 748 S. Judson St., Fort Scott, Kan. Makeup rules and aprons.

Star Tool Works, 415 S. Yellow Springs St., Springfield, O. Mfrs. of equipment and supplies.

Starrett, The L. S., Co., Athol, Mass. Gauges and precision tools.

Static Eliminator Co., 239 Centre St., New York, N. Y.

Sta-Warm Electric Co., Ravenna, O. Electric glue pots and soldering irons.

Steel, B. W., 411 E. Pico St., Los Angeles, Cal. Mfrs. of controlled burners and rotary perforators.

Stephen, Samuel, & Wickersham Quoin Co., 174 High St., Boston, Mass. Mfrs. of quoins, etc. Dealers in machinery.

Stereotype Equipment Co., 3628 Lincoln Ave., Chicago, Ill. Mfrs. of molding presses, humidors, dryers, etc.; dealers in stereotype supplies.

Sterling Chemical Co., 461 E. 62nd St., Chicago, Ill. Overlay system for makeready.

Sterling Type Foundry, 67 E. First St., Vermontville, Mich. Mfrs. of type.

Stevens, Frank H., Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y. Letterpress and lithographic inks, varnishes and driers.

Stevens, F. H., Type Co., 27 N. Union St., East Somerville, Mass. Mfr. of type. Dealer in machinery and supplies.

Stevenson, Ashton G., Inc., 655 S. Wells St., Chicago, Ill. Molds and liners.

Stewart, Don, Co., 423 Sacramento St., San Francisco, Cal. Mfr. of brass rule, etc. Dealer in machinery and supplies.

Stewart-Warner Corp., Alemite Div., 1826 Diversey Parkway, Chicago, Ill. Lubricating systems.

Stiles, Charles L., 64 Hanford St., Columbus, O. Mfr. of gauge pins.

Stimpson, Edwin B., Co., 793 Kent Ave., Brooklyn, N. Y. Eyeletting and riveting machines.

Stokes & Smith Co., Summerdale Ave. near Roosevelt Blvd., Philadelphia, Pa. Mfrs. of printing presses.

Stokes, The A., Co., Hudson, O. Thermography machines and ink, aniline, letterpress and water color inks and compounds.

Stolp-Gore Co., 710 W. Jackson Blvd., Chicago, Ill. Mfrs. of special machinery for printers and bookbinders. Dealers in machinery.

Stonhard Co., 401 N. Broad St., Philadelphia, Pa. Floor resurfacer.

Strait, H. H., 9510 Milton Ave., St. Louis, Mo. Mfr. of feed guides, gauge pins and quoins.

Strathmore Paper Co., West Springfield, Mass. Bond, book, cover, writing and specialty papers.

Stripfounders, 512 S. Sherman St., Chicago, Ill. Mfrs. of type.

Stromberg Electric Co., 223 W. Erie St., Chicago, Ill. Time, recording and wall clocks; time stamps and elapsed indicators.

Struthers Dunn, Inc., 139 N. Juniper St., Philadelphia, Pa. Melting pots, timing devices, ladles, relays and switches.

Stuebing Automatic Machine Co., 2425 Spring Grove Ave., Cincinnati, O. Tin mounting machines, calendar slides.

Superior Flake Graphite Co., 33 S. Clark St., Chicago, Ill. Graphites.

Superior Printing Ink Co., 295 Lafayette St., New York, N. Y. Printing and lithographic inks, driers and compounds.

Sweigard Ideal Co., 6122 N. 21st St., Philadelphia, Pa. Mfrs. of printing frames for photoengravers and lithographers.

Swift, George W., Inc., Bordentown, N. J. Special printing presses and specialty machinery.

Swift, M., & Sons, Inc., 10 Love Lane, Hartford, Conn. Gold leaf laying and stamping equipment; gold in leaf and roll form.

T

Tagliabue, C. J., Mfg. Co., Park & Nostrand Aves., Brooklyn, N. Y. Pyrometers and thermometers.

Talbert Mfg. Co., 400½ Broadway, Kansas City, Mo. Metallic inks.

Teaneck Chemical Co., Walnut St., Teaneck, N. J. Chemicals

Teletypesetter Corp., Div. Western Electric Co., 1400 Wrightwood Ave., Chicago, Ill. Dealers in new machinery. Teletypesetter apparatus 134

Tenacity Mfg. Co., The, Lockland, O. Metal parts for loose leaf binders.

Tesch Mfg. Co., 2700 S. 19th St., Milwaukee, Wis. Mfrs. of knife and saw grinding machinery.

Testing Machines, Inc., 460 W. 34th St., New York, N. Y. Micrometers, scales and gauges.

Thiokol Corp., Yardville, N. J. Oilproof synthetic rubber.

Thomas, James William, Standard Bldg., Cleveland, O. Newspaper architecture and engineering.

Thompson Cabinet Co., Luke St., Ludington, Mich. Mfrs. of composing room equipment, electric backing and special woodwork.

Thomson National Press Co., Dean Ave., Franklin, Mass. Mfrs. of job printing presses, embossers, die heaters, cutting and creasing machines.

Thornton, Seth & Co., 606 Broadway, Kansas City, Mo. Machinery dealers.

Time Saving Device Co., The, 599 Kenmore Ave., S.E. Warren, O. Mfrs. of ejector set for linotypes.

Timken Roller Bearing Co., The, Canton O. Tapered roller bearings 20

Tingue, Brown & Co., 118 E. 25th St., New York, N. Y. Press blankets for web, flat bed, job and proof presses 159

Tintograph Co., 53 Park Row, New York, N. Y. Shading mediums.

Toledo Metal Furniture Co., The, 1100-1200 Hastings St., Toledo, O. Office and composing room furniture.

Toledo Scale Co., Toledo, O. Scales of all kinds.

Tompkins Printing Equipment Co., 705 S. Dearborn St., Chicago, Ill. Printers machinery dealer.

Topp Engineering Co., 1222 W. 84th St., Los Angeles, Cal. Metal feeders.

Tork Clock Co., Inc., Mount Vernon, N. Y. Clock controlled switches.

Toronto Type Foundry Co., Ltd., Toronto, Can. Everything for the printer, bookbinder, lithographer and box maker.

Triangle Ink & Color Co., 26 Front St., Brooklyn, N. Y. Letterpress, offset, litho inks, compounds, driers and varnishes.

Triplet Gauge Co., Div. of Deleet Trading Corp., 1 Dover St., New York, N. Y. Gauges and tympan papers.

Trussell Mfg. Co., Poughkeepsie, N. Y. Binding process.

Tryon, Clyde B., 406 S. 12th St., Omaha, Nebr. Trade composition.

Tucker-Dorsey Mfg. Corp., 302 S. State St., Indianapolis, Ind. Trucks.

Turner Type Founders, Inc., 1729 E. 22nd St., Cleveland, O. Mfrs. of type. Dealers in new and used machinery. Rebuilt machinery

Twin City Printers Roller Co., 505 S. 3rd St., Minneapolis, Minn. Printers' rollers.

Type & Press of Illinois, 632 Sherman St., Chicago Ill. Dealers in new and used equipment and supplies.

Type-O-Writer, Hervey Lees, Distributor, 212 N. Chevy Chase Drive, Glendale, Cal. Keyboards.

U

Unbekannt, C., 528 Palisade Ave., Weehawken, N. J. Staging ink.

Union Rubber & Asbestos Co., Trenton, N. J. Engravers rubber solution, adhesives.

Unique Steel Block Co., Waverly, N. Y. Mfrs. of register base for presses, chase blocks, clamps, etc.

United American Metals Corp., 200 Diamond St., Brooklyn, N. Y. Composing machine, electrotype and stereotype metals; metal flux 159

Universal Engraving & Color Plate Co., 1919 E. 19th St., Cleveland, O. Meinograph process.

Utility Heater Co., 239 Centre St., New York, N. Y. Mfrs. of heaters, oxidizers, neutralizers, etc. Dealers in new and used machinery—repairs, etc.

U. S. Electrical Motors, Inc., 200 E. Slauson Ave., Los Angeles, Cal. Motors 24

U. S. Stoneware Co., 60 E. 42nd St., New York, N. Y. Etching machines, tubes for etching zinc and copper plates 161

Uvachrom Emulsion Co., Walnut St., Teaneck, N. J. Chemicals.

U.P.M.-Kidder Press Co., Inc., 121 Broadway, Dover, N. H. Mfrs. of printing machinery and sales registers.

V

Valenti Metal Corp., 985 Grand St., Brooklyn, N. Y. Metals

Valley Paper Co., Holyoke, Mass. Rag content bonds, ledgers. Thin papers, index bristols.

Vandercook & Sons, Inc., 900 N. Kilpatrick Ave., Chicago, Ill. Mfrs. of proof presses, etc. 99

Vapo Systems, 111 W. Washington St., Chicago, Ill. Spraying equipment for paper webs on presses.

Veeder Root, Inc., Hartford, Conn. Counting devices.

Verrinder, E. A., 827 Alvarado St., Redlands, Cal. Mfr. of feed tables.

Vogt Roller Co., Inc., 222 S. 12th St., Louisville, Ky. Composition and rubber rollers.

Vulcan Proofing Co., 58th St. & 1st Ave., Brooklyn, N. Y. Litho, offset, makeready and newspaper blankets) rubber rollers 25

W

Wagner, Chas., Litho Machinery Co., Inc., 51 Park Ave., Hoboken, N. J. Mfrs. of litho machinery and supplies, presses, ovens, varnishing machines, etc.

Wagner Electric Corp., 6400 Plymouth Ave., St. Louis, Mo. Motors.

Walker-Cameo Overlay Corp., 1374 Massachusetts Ave., Boston, Mass. Overlay and ink.

Wallin Mfg. Co., 1122 Harney St., Omaha, Nebr. Mfrs. of composing room equipment.

Wallmueller, Fritz, 63 W. Broadway, Salt Lake City, Utah. Printing press machinist.

Wapakoneta Machine Co., The, Wapakoneta, O. Paper knives.

Wardwell Mfg. Co., 3167 Fulton Rd., Cleveland, O. Saw-filing equipment 161

Warnock, W. S., Co., 1524 Jonquil Terrace, Chicago, Ill. Mfrs. of printing plate mounting equipment, chases, bases, and register hooks.

Walker, E. H., Supply Co., 926 H St., N. W., Washington, D. C. Dealer in supplies and equipment 161

Wallace & Tiernan Products, Inc., 11 Mill St., Belleville, N. J. Water color printing process.

Warren, S. D., Co., 89 Broad St., Boston, Mass. Book papers for letterpress, label, offset and gravure super papers.

Waterfalls Paper Co., 21 E. 40th St., New York, N. Y. Bond, ledger, and offset papers.

Webendorfer-Wills Co., Inc., 2 South St., Mt. Vernon, N. Y. Mfrs. of sheet fed cylinder presses, offset and web offset presses, electric motors, switches, etc.

Wehrung & Billmeier Co., 3624-30 Lincoln Ave., Chicago, Ill. Gold leaf.

Wells & Co., 538 S. Clark St., Chicago, Ill. Cross rule form machine.

Welsh, C. L., Route 3, Pleasantville, N. J. Mfr. of gauge pins and guides.

Wesel Mfg. Co., 893 Providence Rd., Scranton, Pa. Proof presses, leveling stands, shears, photoengraving equipment, direct pressure press for electrotypers.

Western Brush Co., 175 W. Lake St., Chicago, Ill. Offset preventive 152

Western Roller & Machinery Co., 1716 Arapahoe St., Denver, Colo. Mfrs. of rollers. Dealers in printing and typesetting machinery.

Western States Envelope Co., 1616 W. Pierce St., Milwaukee, Wis. Envelopes.

Weston, Byron, Co., Dalton, Mass. Bond and ledger papers.

Weston Elec'l Inst. Corp., 614 Frelinghuysen Ave., Newark, N. J. Gauges and testing instruments.

Wetter Numbering Machine Co., Atlantic Ave. and Logan St., Brooklyn, N. Y. Mfrs. of numbering machines 154

Whiting Paper Co., Holyoke, Mass. Bond, book, ledger, linen and writing papers; papeteries and bristols.

Whiting-Plover Paper Co., Stevens Point, Wis. Bond, cover, ledger, onion skin and writing papers.

Wickwire Spencer Steel Co., 41 E. 42nd St., New York, N. Y. Wire and fillets.

Wiebking Engraving Co., 1133 Newport Ave., Chicago, Ill. Mfrs. of matrices for typesetting and typemaking machines.

Wiedemann Quoin Co., The, 181 Crescent Ave., Revere, Mass. Mfrs. of quoins.

Wild & Stevens, Inc., 5 Purchase St., Boston, Mass. Letterpress, newspaper, offset and lithographic rollers.

Wildes, Thomas, & Sons., 23 Borden Ave., Long Island City, N. Y. Metals.

Willsea Publishing Co., 1276 W. 3rd St., Cleveland, O. Publishers *Printing* EQUIPMENT *Engineer.*

Willsea Works, 1042 University Ave., Rochester, N. Y. Mfrs. of special machinery.

Williamson Glue & Gum Works, 2327 W. 18th St., Chicago, Ill. Adhesives.

Wing, L. J., Mfg. Co., 154 W. 14th St., New York, N. Y. Air conditioning equipment.

Winn & Goodman, 350 Sansome St., San Francisco, Calif. Composition rollers and padding composition.

Winslow Ink Corp., 124 White St., New York, N. Y. Letterpress, lithographic, offset inks, varnishes and compounds.

Wood Flong Corp., Hoosick Falls, N. Y. Stereotypers' dry mats 34A

Wood, Nathan & Virkus Co., Inc., 112 Charlton St., New York, N. Y. Mfrs. raised letter machinery and supplies.

Wood Newspaper Machinery Co., 501 Fifth Ave., New York, N. Y. Mfr. of web presses and stereotyping equipment 21

Wrenn Paper Co., The, Middletown, O. Blotting paper.

Wright Co., The, 444 Madison Ave., New York, N. Y. Newsprint.

Y

Yale & Towne Mfg. Co., 4530 Tacony St., Philadelphia, Pa. Trucks.

York Ice Machinery Co., York, Pa. Air conditioning equipment.

Young Engineering Co., 2743 N. High St., Chicago, Ill. Mfrs. of special printing machines.

Young Radiator Co., Racine, Wis. Air conditioning equipment.

Z

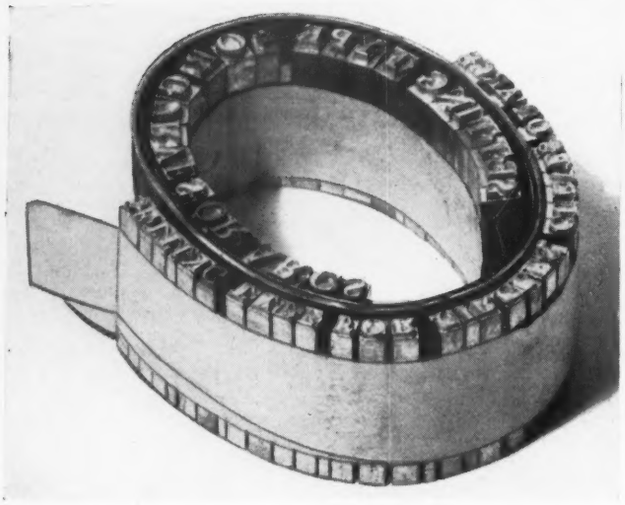
Zanetti, J., Machine Works, 1701 Kirkwood Ave., San Francisco, Calif. Mfrs. of ruling machines, feeders and routing machines. Dealers in machinery, repairers.

Zarkin Machine Co., Inc., 335 E. 27th St., New York, N. Y. Mfrs. of graining machine for litho trade.

Zellner Foundry Co., The, 2088 Scranton Rd., Cleveland, O. Metal remelting molds and pots.

Ziegler, R.. & Son Machine Co., 210 Vine St., St. Louis, Mo. Machinists, repairers and service.

Gummed Tape Useful for Curved Type Lines



View of type lines set inside and outside of a brass ellipse. As is explained in the accompanying article, the type characters in a continuously reading line of type are made to conform to the curvature of a circle or ellipse automatically by fastening gummed paper tape to the nick side of the type body before lifting the type line from the composing stick. After having been arranged about the outside of the circle a second strip of gummed tape is fastened to the constant side of the line. Application of the second strip of gummed tape to the constant side of a type line intended to be used inside a circle or ellipse is explained in this article. Scotch Cellulose Tape, which carries its own adhesive, is ready to use and does not require moistening, is much better adapted for holding type lines than is paper tape.

By C. E. OSTERLAND*

JOBS requiring the setting of type inside or outside of brass circles, ellipses, or, for that matter, the setting of type to fit the contour of any curved dimension, must be handled in the composing room occasionally. Like anything else, there is a right way and a wrong way to go about finding out how many pica ems there are in the space to be occupied by the type and what point size type will be required. Another problem in setting type in curved lines is in how to letterspace the type and arrange it properly about the circle in such a way that it will be in true curved and symmetrical relationship to the circle with which it is to be printed.

Before setting the type for a circle, (either i.d. or o.d.) find the number of ems in the circumference of the circle as will be explained below. After having found the circumference, set a composing stick to the measure in ems corresponding to the circumference of the circle. Then it will be easy enough to determine what point size type will fill that measure. Setting the type in a straight line will show also whether the type should be letterspaced to fill the required amount of space in the circle.

By the simple expedient of fastening moistened gummed paper tape to one side of the type line, the line may be placed about the circle without the hazard of pied type. Recent use of Scotch Cellulose Tape shows that it is better adapted for this purpose than paper tape. The line to be placed either around the outside or the inside of the circle provided it reads continuously without break should be taped first on the nick-side of the type bodies. After the line has been placed so as to conform to the curvature of the circle, an additional length of gummed tape may be fastened on the opposite side.

*Manager, Cleveland Typesetting Company, Cleveland, Ohio.

Fitting a full type line to fill completely the inside surface of a circle, however, involves an extra operation when applying the second length of gummed tape to the constant side of the type line. After setting the line, apply the tape to the nick-side and place within the circle. Then bend a piece of 1-pt. brass rule or 2-pt. composition strip material to conform to the inside diameter of the type line, and place inside the type line which previously has been placed within the circle. Carefully lift off the circle and apply the second strip of gummed tape to the outside of the type line, which may now be handled quite freely.

In cases where one or more words are to be arranged segmentary fashion about the lower inside portion of a circle, and which are intended to be read "right side up," the first strip of gummed tape will have to be applied to the constant side of the type line.

In order to convert a circle or ellipse into a square or rectangular shape to facilitate locking in the chase, make up the form in the chase and pour plaster of paris mixture into the open spaces. The open spaces remaining after the inside of a circle has been filled in with type and quads may also be filled with plaster of paris compound.

There are two ways to determine the approximate measurements of type lines for either the inside or outside dimensions of a circle. A steel tape line can be used for this purpose, afterwards converting the inch measurement to ems. The method commonly used in our plant, however, for determining the circumference of circles, is to multiply the outside diameter by 3.1416. For instance, if a circle is 10 ems o.d., the measure in ems of the type line which is to be placed about the circle would be

3.1416×10 ems=31.4160
or approx. 31½ ems o.d.
+ 2 or 3 pica ems of quads*

The inside measurement of a circle can be found by reducing its inside diameter by 2 (or twice the type body measurement in ems). In case the type to be used for the inside of the circle is 12 pt., simply subtract 2 ems (pica) from the circle diameter and multiply by 3.1416, as follows:

10-em circle i.d. —2 ems (12-pt. type body measurement)=8 ems i.d.
3.1416×8 ems=25.1328
or approx. 25 ems
+ 2 or 3 pica ems of quads*

If the type to be used is not a multiple of a pica em, (such as 7 or 9 pt.) simply reduce the body size to points instead of pica ems.

Gummed paper tape is particularly useful when setting type for any segment of a circle which might be indicated in any layout. Its use guarantees that the characters will stay in alignment because the tape is applied before the line is lifted from the composing stick.

*These quads are to be divided and placed at either end of the type line to facilitate applying the gummed tape before removal of the line from the composing stick.

WILL PRINT "TIMES" ROTO SECTIONS

The Neo-Gravure Printing Company, Inc., New York, N. Y., a subsidiary of the Cuneo Press, will execute both rotogravure and colorgravure supplement printing for the New York *Times*. The Cuneo Company has purchased the *Times* gravure plant.

PRINTERS PROGRESS SPECIAL

AFTER 8,656 MILES . . . VIEWED BY 40,600 PRINTERS

swings South!

Last chance to see the Big Train!

WATCH FOR IT! • SEE IT!

	NOV.
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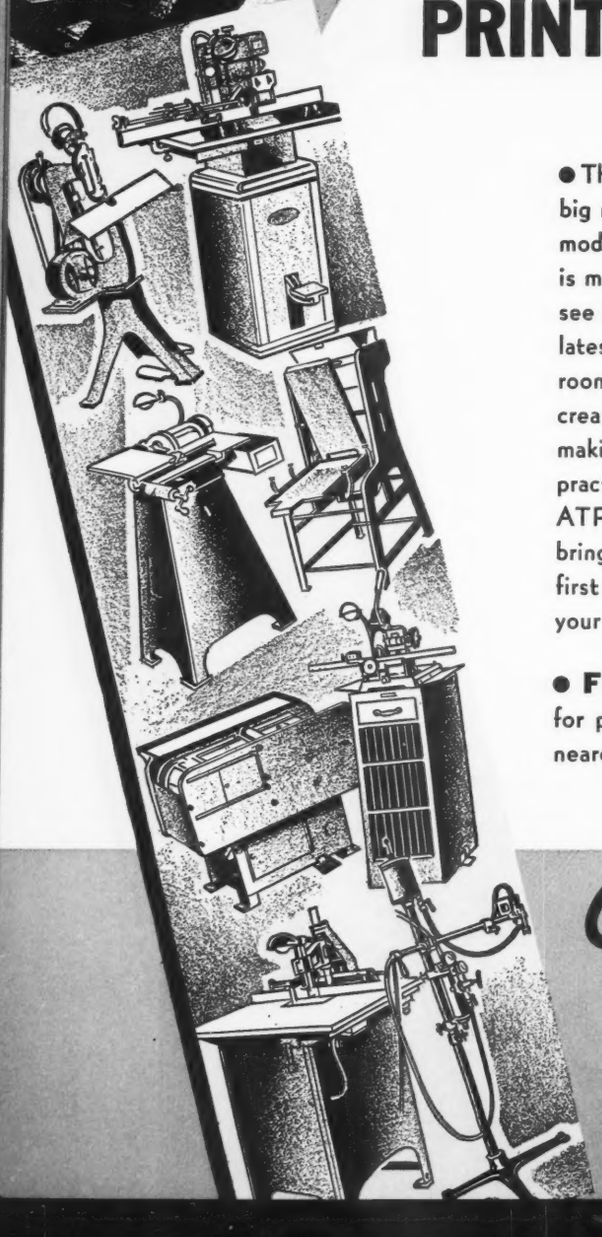
Del Monte	7-8-9
Los Angeles	10-11
San Diego	12
Phoenix	13
El Paso	14
San Antonio	16
Houston	17
Dallas	18
Ft. Worth	19
Oklahoma City	20

	NOV.
Memphis	21
New Orleans	23
Montgomery	24
Jacksonville	25
Miami . Thanksgiving	
Miami	27
Tampa	28
Birmingham	30
	DEC.
Nashville	1
Chattanooga	2

	DEC.
Atlanta	3
Charlotte	4
Greensboro	5
Richmond	7
Washington	8-9
Baltimore	10
Philadelphia	11-12
Harrisburg	14
Allentown	15
Scranton	16
Newark	17

with the now famous QPA *story of the new* ATF 17x22 KELLY . . .

HIGH QPA . . . *big news on the* PRINTERS PROGRESS SPECIAL



● The Printers Progress Special itself is big news! Everywhere, this trainload of modern printing machinery and supplies is making headlines. Printers flocked to see the practical demonstrations of the latest types of composing room, press-room and bindery equipment. It's the cream of the crop of modern profit-making and labor-saving ideas . . . and practically all of it is shown under power. ATF and other leading manufacturers bring this display to your door for the first time in graphic arts history! Ask your ATF Salesman for admission card.

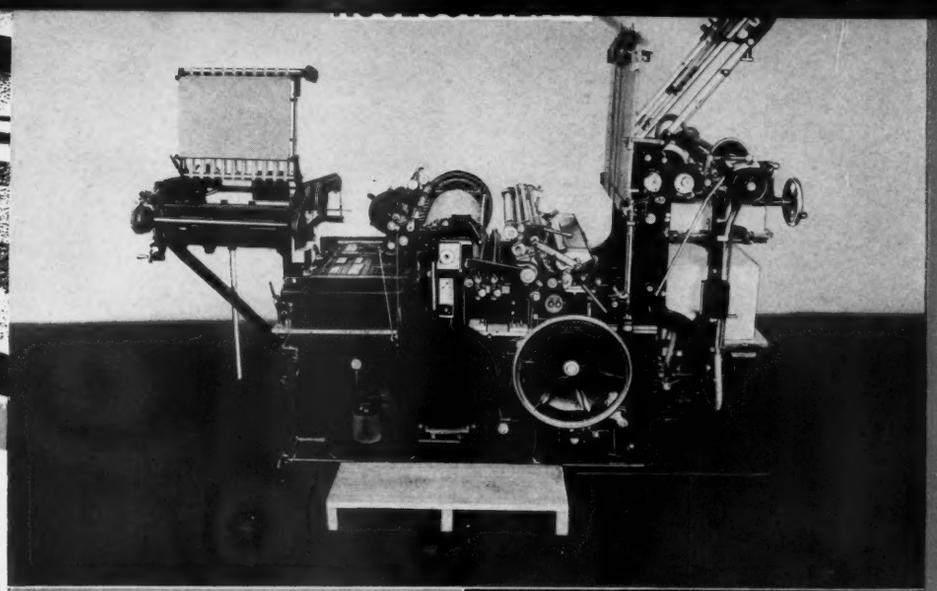
High QPA puts the New ATF 17x22 Kelly in a class of its own . . . see it in operation on the Printers Progress Special. There are a dozen features for faster production of quality work . . . a dozen reasons why it is an easier press to run and a profitable press to own. The size of the form covered, full 17x22, enables you to run 4-up on 8½x11 size jobs, with minimum waste . . . only one feature of its general economy over slightly larger size presses. Some of the advanced ideas built into the new 17x22 are shown on the next page.

● **FREE!** Illustrated literature, complete description of ATF 17x22 Kelly features for plant owner and pressman. Beautifully printed. No cost or obligation. Write nearest ATF Branch.

Cooperating Supplier

on

PRINTERS PROGRESS SPECIA



QPA means Quality Production Average—the average hourly production of well-printed sheets that you can expect and get from a press. It is a true measure of press profit possibilities. Four principal factors shown in the accompanying illustrations determine QPA, and the New ATF 17x22 Kelly delivers on all four counts!

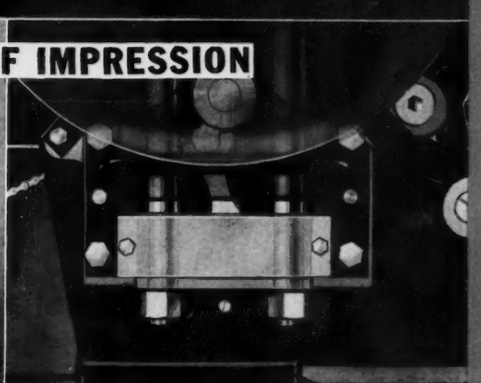
ACCESSIBILITY—Delivery swings back, feed board swings up, inking mechanism opens wide giving free access to form and cylinder. Make-ready is speeded up and wash-ups simplified.

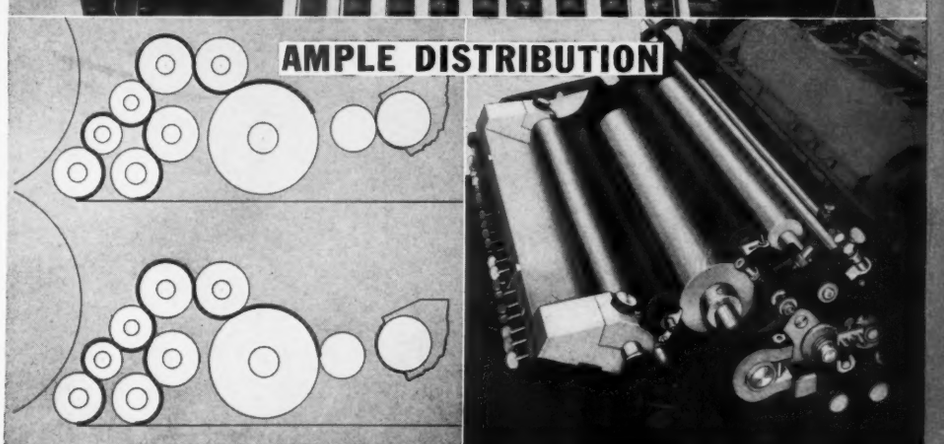
STRENGTH OF IMPRESSION—Extra heavy bed tracks under bearers and in the center give full support to the form. Tracks are mounted on a massive 1200 lb. column cast in one piece. Once a form is made ready it stays made ready. Improved toggle device brings the cylinder down for a powerful, even impression.

ACCURATE REGISTER—A pull-guide, adjustable while press is running, assures accurate side register. Tumbler grippers take the sheet in register position at all speeds. Cylinder gear is always in complete engagement with its driving gear. Backlash and tooth distortion are held to a minimum.

AMPLE DISTRIBUTION—The new Pyramid inking system provides plenty of worked-up ink even at top speeds. Full "color" is maintained without cutting the speed of the press. Covers full 17x22 form. The New ATF 17x22 Kelly, like all Kellys, is powered by a Kimble Motor ... the only motor built exclusively for the graphic arts.

ASK YOUR ATF SALESMAN FOR DETAILS





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STEREOTYPE EQUIPMENT COMPANY . Chicago, Ill.

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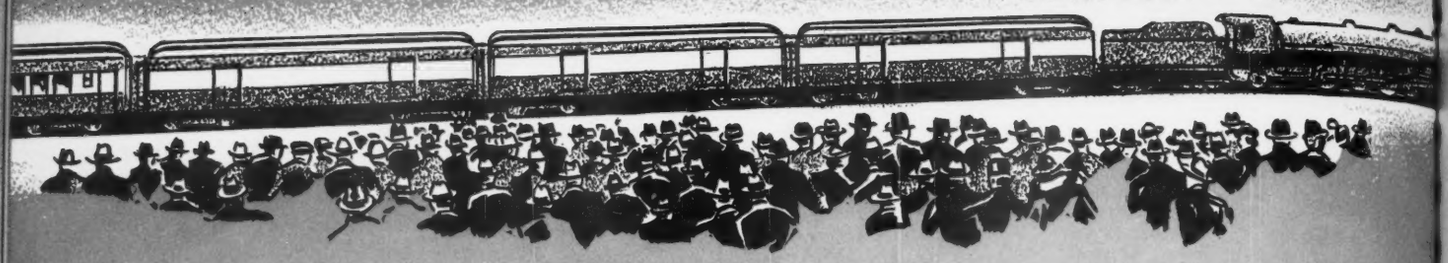
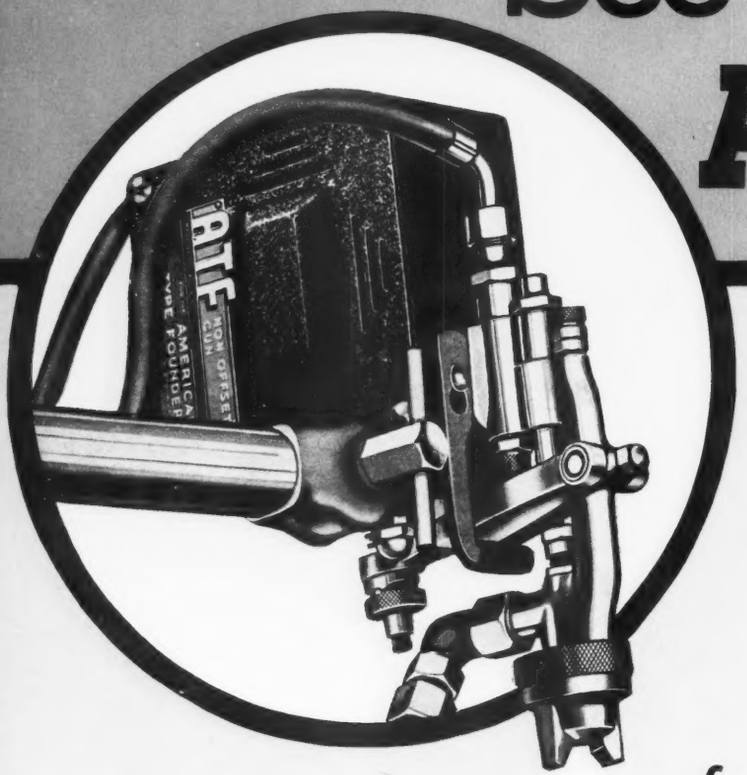


See the new ATF GUNS



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...REPRICED

for EVERY PRESS
for EVERY BUDGET

• At last! Every printer can speed up his presses and produce quality work without the fear of offsetting, sticking, and freezing. The new line of ATF NON-OFFSET GUNS is designed and priced to meet the requirements of small and large shops. Each of the three new models will eliminate expensive slipsheeting, ink doctoring, racking, running slow. And new features built into the ATF Guns increase the economy and ease of their operation.

• **ATF MASTER** Model is the finest Non-Offset equipment ATF ever offered! Improvements made to simplify operation and increase effectiveness at no increase in price. New, extra-wide nozzle . . . more efficient coverage. Simplified air cleaner. Upright is now finished in gleaming chromium and will not chip, rust or crack. The Master is for the printer who demands perfect equipment that will last indefinitely with the least attention. It is made in various models for all styles of presses

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• **ATF COMBINATION UNIT** . . . Gun and compressor mounted on one tripod. For use on presses below 25x38 size where portability of gun *and* compressor is desired. Built with the same thoroughness and effective power as the Junior. Compressor can be removed if desired. See the ATF GUN on the PRINTERS PROGRESS SPECIAL. See your ATF Salesman for details about the New ATF GUNS!

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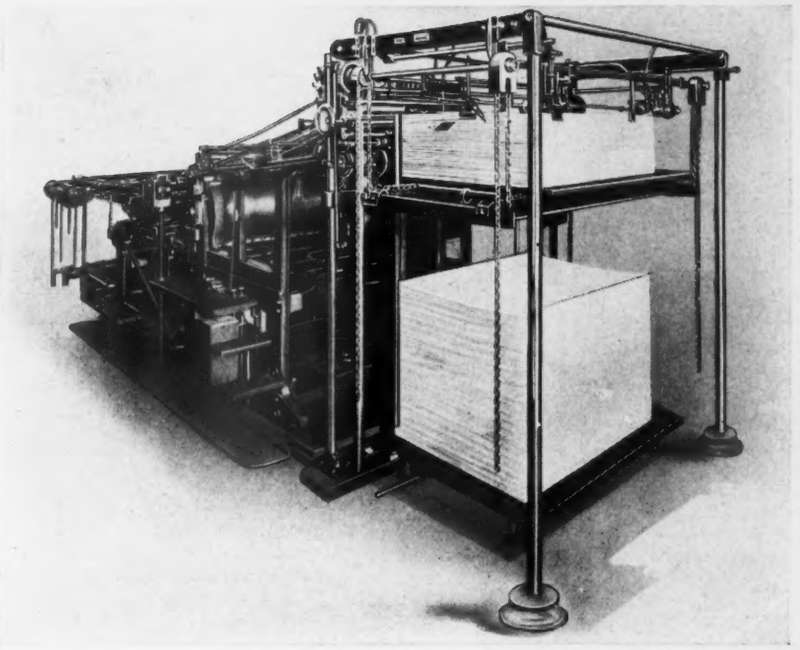
Types used: Bernhard Gothics, Stymie Family, Franklin Gothics, Kaufmann Bold and Raleigh Gothic Cond. . . . Printed on Kelly Presses



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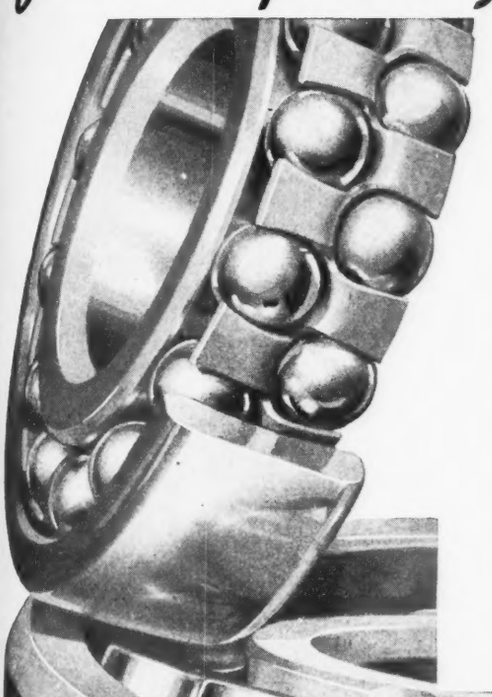
first in printing machinery performance



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Not only on the big presses, but on typesetting machines, routers, folders, conveyors, control units, etc., SKF allow high speeds, heavy loads, and increased production.

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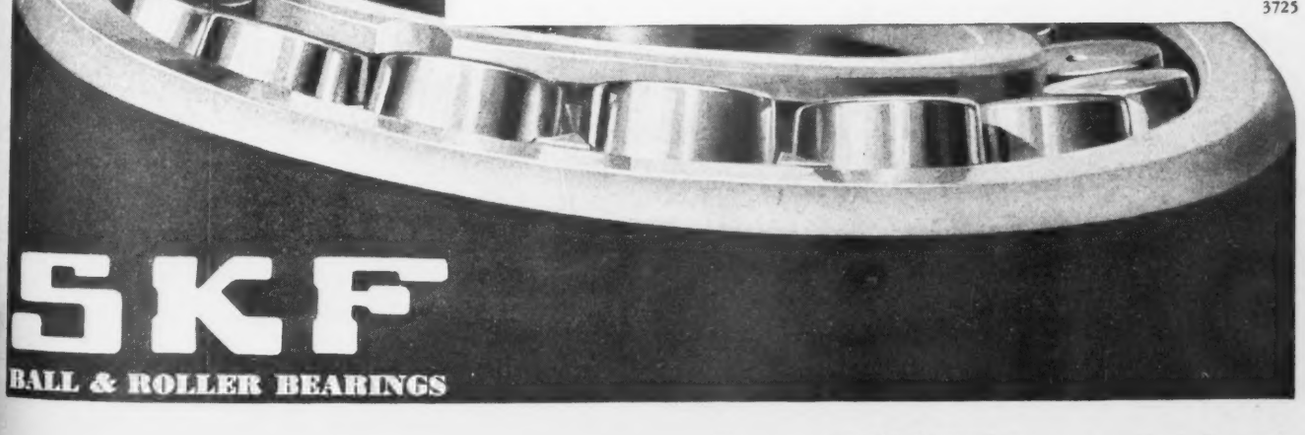


SKF
BALL & ROLLER BEARINGS

Drying Inks

(*Continued from Page 62*)

also influence the choice of the heating medium. The use of gas or electricity permits a lower initial investment than with steam apparatus, as well as the smaller space required.

Other Types of Printing

We are applying this experience to other printing problems, such as bag, wrapper, and label printing. In our experimental printing plant, tests have been run at 300 ft. or more per minute, printing and drying successfully on the stocks commonly used in these types of printing, including glassine and metal-coated papers. These stocks have been rewound in tight rolls without offsetting or sticking. The results of these tests lead us to believe that it will be feasible to combine other operations with the printing press.

Discussion

By an Assistant to the Superintendent of Manufacturing, The Curtis Publishing Company.

IN 1925, we installed and put into production the first multicolor web perfecting presses for printing, in a single operation, black or two colors on the first side, and four colors on the second side, of a continuous web. Since then we have experimented actively with various methods of eliminating the traveling offset roll.

The offset web had long been in use for protecting the first-side print on black perfecting presses, and even on presses printing two colors both sides. While the effect of second-side impression was more pronounced on the two-color press than on black alone, it was not serious in either case. But here was a press on which the wet first-side ink was subjected to the beat or impression of four successive color plate cylinders.

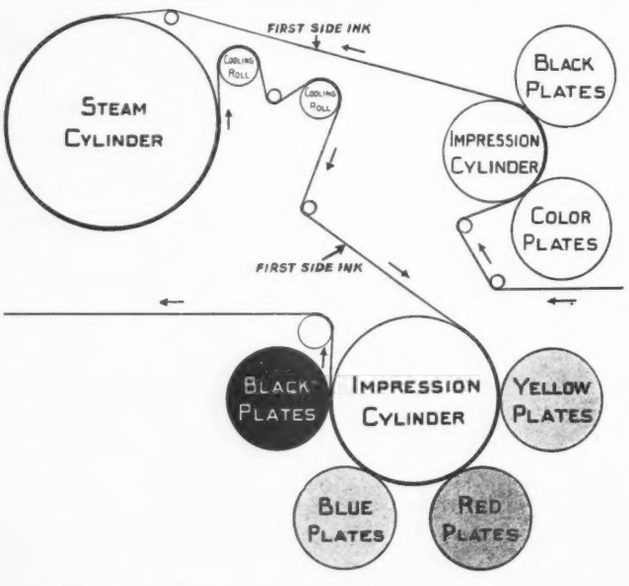


Fig. 2.—The press shown here is like that in Fig. 1. A steam cylinder and two cooling rolls for drying the first impression ink have been substituted for the traveling web offset roll. The web, carrying the first impression printing in black or two-color, passes over the steam drum and the two cooling rolls. The ink is dried before the first impression printing reaches the second-impression cylinder.

Many Experiments to Prevent Offset

Early attempts to solve this problem did not involve the drying of the ink. We tried various materials intended to replace the normal top-sheeting on the lower impression cylinder, hoping that an ink-resisting surface would eliminate the need for the offset web. The trials included oil application, and felt-roller wiping; Carborundum and sand-paper; waxed top-sheeting, and the use of the wax-spray; treated parchment with a damping mechanism; lacquer surfacing compounded for water absorption; and even sheet metal, with a cleaning device. None of these materials or methods was entirely successful.

Fig. 3.—Upper illustration shows section of web printed on multicolor web perfecting press equipped with traveling offset roll or tympan. Lower illustration shows section of web printed on multicolor web perfecting press equipped with steam drum, around which the web (bearing the first impression printing) passes to dry the ink before the web goes around the second impression cylinder.

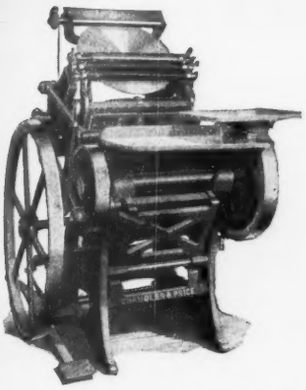
If the first-side ink was dried before it reached the four-color printing unit, it was apparent that there could be no smearing or blotting, and no need for the blotter web. Our problem, then was to find a feasible method for the immediate drying of first-side ink. This drying had to be completed within a few seconds.

Ozone Used Combined With Heat

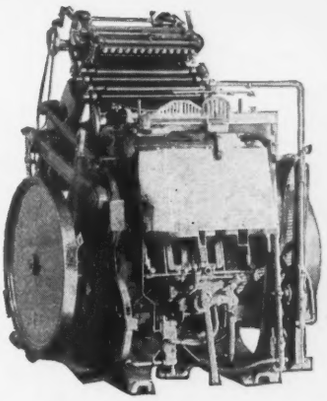
In 1929 we started to develop the application of high-concentration ozone, combined with heat, to effect the immediate oxidation and polymerization of the ink. After some two years, we were able to install this method on a multicolor press, using a 21 in. diam. cylinder carrying steam at a temperature of 300 deg. Fahr. Desiccated air containing about 1% of ozone was impinged from a narrow slot, against the web as it passed around the steam cylinder. The web was cooled, and immediately printed with four colors on the reverse side.

While this method effected the satisfactory drying of first-side black ink, and the press was used in magazine production for three years, there were troublesome disadvantages. Chinawood oil, used for the ink vehicle was not uniform in its chemical properties; drying results varied considerably in different shipments. The ozone generating apparatus occupied a large floor space, represented a high investment and operating cost, and required considerable maintenance. The toxic effect of the highly concentrated ozone called for large-volume ventilation to carry away the excess gas.

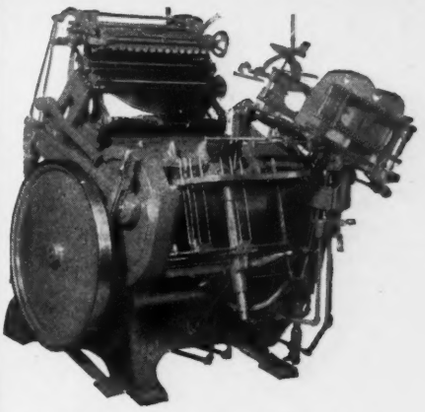
(*Continued on Page 129*)



Chandler & Price New Series Presses for hand feeding are built in 4 sizes, 8 x 12, 10 x 15, 12 x 18 and 14½ x 22. Quickly made ready, easy to feed, and handle *profitably* a large share of the work in the average job plant. Low in first cost and in cost of operation and upkeep. Ask for detailed specifications and price on the size to fit the work you have to do.



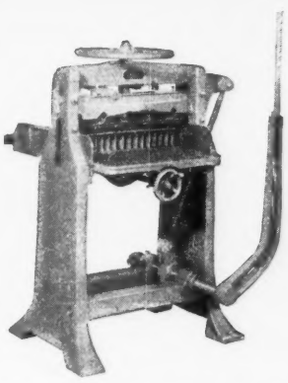
The New Craftsman Press with C & P Rice Automatic Feeder; 10 x 15 and 12 x 18. The high efficiency automatic job press, incorporating Handwheel Impression Control and many other features insuring better presswork and high hourly production, with less time lost in makeready and press adjustments. Write for illustrated bulletin and specifications.



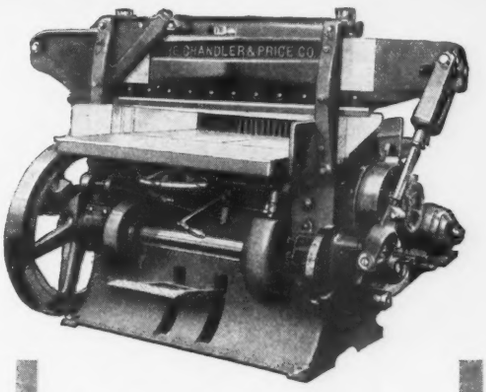
The 14½ x 22 Craftsman Automatic Unit. Regular and Heavy Duty. Capable of finest presswork on many jobs usually considered unsuited to automatic presses. The Heavy Duty Unit also provides automatic feeding on much die-cutting, scoring, creasing, stamping and embossing that would otherwise require costly hand feeding. Specifications on request.

Chandler & Price

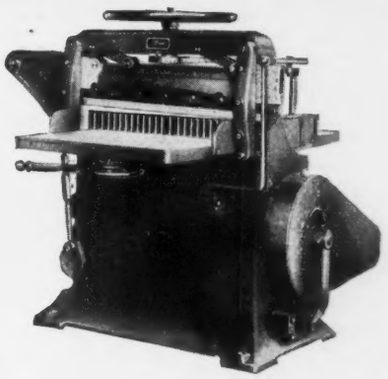
PRESSES AND PAPER CUTTERS



The Craftsman 26½ in. Lever Cutter, the efficient cutter for the smaller modern job plant. Nineteen new features, including solid one-piece side frames, truss-bridge knife bar, new type knife-bar linkage, etc., all providing more accurate cutting plus easier and faster operation. Complete description and specifications will be furnished on request.



Chandler & Price Automatic Paper Cutters, built in 39 in., 44 in. and 50 in. sizes. Knife *pulled*, not pushed through stock; binder friction adjustment accessible at side of cutter; back gauge lock that takes up its own wear; and many other exclusive features of interest to every experienced cutter owner and operator. Ask for illustrated bulletin and specifications.



The 34½ in. Craftsman Cutter. For the busy plant of moderate size, or to provide extra capacity at small investment for the larger plant. Many features similar to larger C & P full-automatic cutters—solid frame for permanent accuracy; knife *pulled*, not pushed through stock, back gauge clamp that takes up its own wear, etc. Write for complete description.

THE CHANDLER & PRICE COMPANY • CLEVELAND, OHIO

Printing Presses and Paper Cutters

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T.-O. Conference

By STAFF WRITER

Fall session marked by distinguished speaking talent and liberal attendance

The fifth semi-annual session of the Texas-Oklahoma Conference was held at the Adolphus Hotel in Dallas, Texas, on Monday and Tuesday, November 9 and 10. Twenty-two publishers of the southwest newspaper publishing territory sent delegates to this meeting.

W. E. Wines, manager of the Mechanical Department of the American Newspaper Publishers Association and A. E. Giegengack, United States Public Printer, were guests at the conference and participated in the program. Other distinguished participants on the conference program were Douglas C. McMurtrie of the Ludlow Typograph Company and Dr. W. T. Diefenbach of the Research Department, the J. M. Huber Ink Co.

At the close of the two-day meeting, the publishers of the Dallas newspapers entertained the delegates and their friends at the Texas Centennial Exposition.

Officers during the spring term are: Leven T. Deupty, Chairman (Mechanical Superintendent, Dallas *News* and *Journal);* O. M. Harper, Secretary (Mechanical Superintendent, The *World*, Tulsa). The foregoing officers, together with the following constitute the Board of Governors: Gus Lundberg, Ft. Worth *Star-Telegram;* W. J. Phillips, *Oklahoman* and *Times;* Joe Mellina, Galveston *News-Tribune;* Jack Keather, Amarillo *Globe-News;* B. T. Juergens, Muskogee *Phoenix* and *Times-Democrat*, and A. D. MacDiarmid, Tulsa *Tribune*.

Portable Fountain

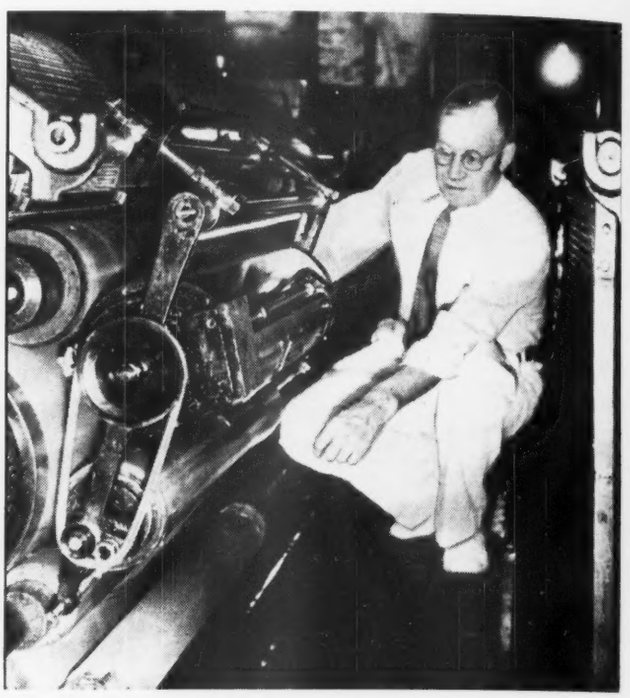
By F. H. WINCH*

Can be used on most any type of newspaper printing press at any press speed

EFFORTS to keep pace with the increasing demand by advertisers for color display space in our papers, together with the inconveniences and production disadvantages as a result of total unpreparedness for this kind of printing, demonstrated the need of equipment suitable for the purpose. The time and expense involved in cleaning black fountains and the extra attention required in the use of drip fountains have now been eliminated here by the use of a portable ink fountain. The fountain was developed by J. E. McMullen, a pressman on the Milwaukee *Sentinel* and the Wisconsin *News*.

This fountain can be attached to or detached from the press without the use of a wrench in approximately ten minutes and is designed in such a way that it can be applied easily to most any type of press. After the original color setting has been made the fountain requires very little attention. It becomes operative automatically when the press is started and inoperative when the press is stopped.

The fountain contains a driven agitator that builds up a pressure feed, governed by the speed of the press. This makes possible the running off of stubs at reduced speed without flooding the color page and yet the fountain automatically is caused to furnish plenty of ink at full speed. The agitator is of grid-like construction, having longitudinally extending side bars. These bars are about equally spaced and the lower faces are rounded so as to create a downward pressure when the grid is reciprocated. The grid is reciprocated longitudinally at a point above and close to the outlets. This motion tends to force the ink downwardly and out through the outlets. The reciprocating motion is obtained by a slotted crosshead and crank pin transmission.

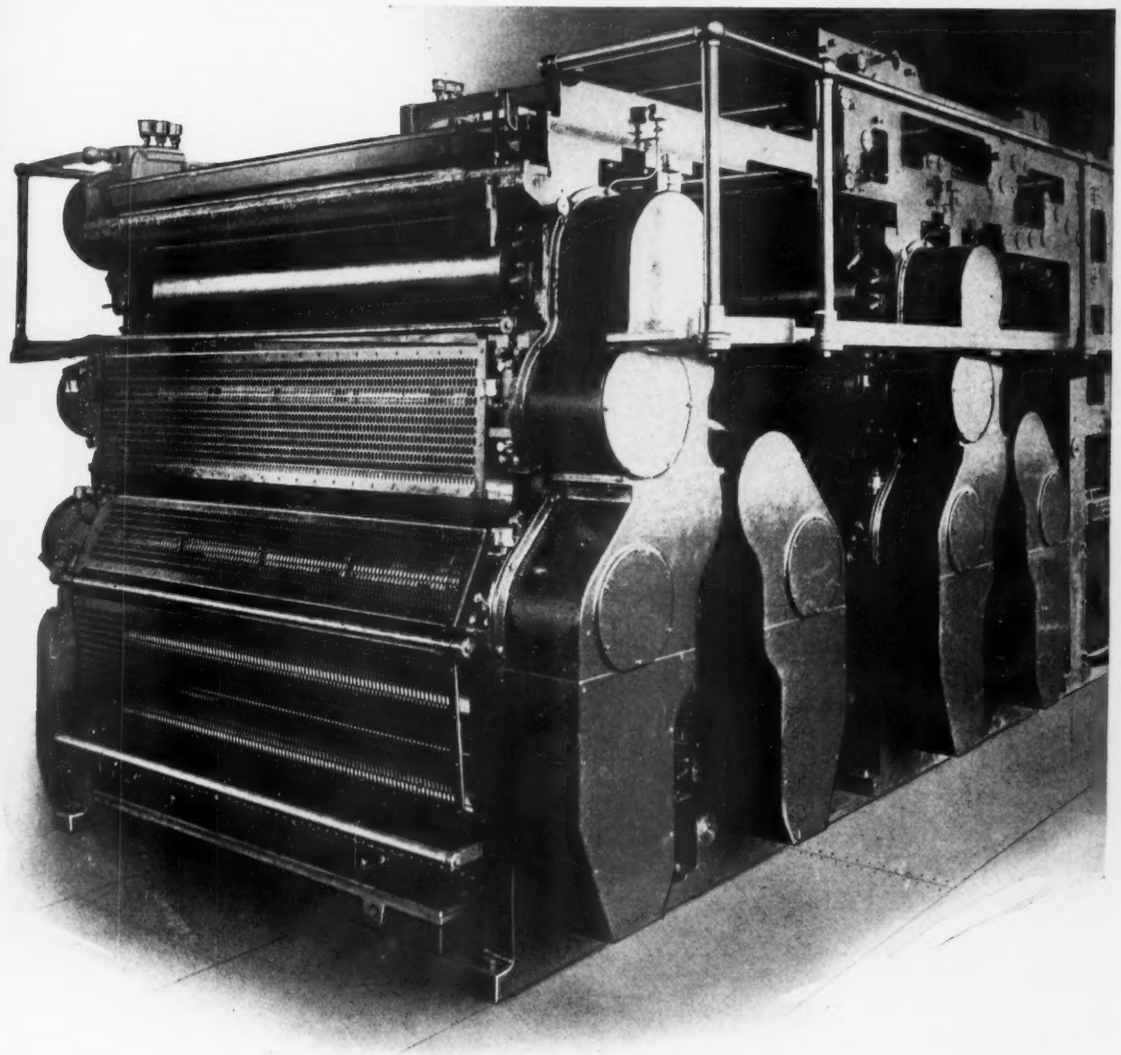


Charles Mallm, Mechanical Superintendent of the Peoria (Ill.) Journal-Transcript *inspects one of the McMullen Quick-Change Automatic Ink Fountains in use in his plant.*

The fountain may be cleaned quickly. The decker type fountain weighs about 60 lbs. The unit type fountain weighs about 85 lbs. Fountains are of two-page width and can be mounted together to cover the entire width of the press.

Beauty In a Bearing—One of the largest spherical roller bearings in the world built by SKF has the dimensions 46½ in. outside diameter, 27½ in. bore and 15⅜ in. width. Twenty-three and one-half tons of this one bearing size were purchased by Soviet Russia for their Zaporojstal Steel Works cold mill equipment designed by United Engineering & Foundry Company.

*Mechanical Superintendent, Milwaukee Publishing Company, Milwaukee, Wis.



Right As A Trivet

Like a trivet the success of a newspaper press depends on three essentials: Paper Feed, Printing Unit, Folder.

To achieve a real success, to give thorough and lasting satisfaction, each of these must be developed equally and to the utmost.

Scott Presses are the result of the longest experience in Unit Press Design intensively concentrated on the perfection of original design, excellence of construction and superior performance.

Scott Paper Feeds, Scott Printing Units and Scott Folders, each supreme in their field, combine effectively to make Scott Presses a real success and enable them to give thorough and lasting satisfaction. Ask any Scott Press User.

WALTER SCOTT & Co.

Plainfield, New Jersey

New York
230 West 41st Street

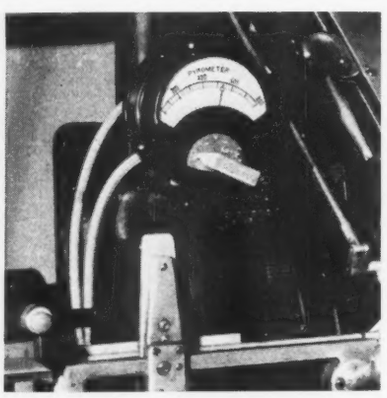
Chicago
1330 Monadnock Block

Pot Mouthpiece Heat Determination

By STAFF WRITER

New Instrument Indicates Separately Temperature of Metal in Line-Casting Machine Crucible and Crucible Mouthpiece—Casting Riddles Solved By Use New Pyrometer

EVER since the introduction of line-composing machines it has been necessary for the machinist or the machinist-operator to learn to use his best judgment about the proper amount of heat which is to be maintained in the pot crucible mouthpiece. In fact, acquiring the knack of judging the proper operating temperature of the mouthpiece has been one of the principal items in composing machine maintenance education because the ability to adjust pot and mouthpiece heating equipment separately is not acquired readily and is in itself an indefinite quantity—a sort of rule-of-thumb procedure which is not in harmony with the best plant practice.



By turning a switch on the casing, this pyrometer indicates separately the temperature of the metal in the pot crucible as well as the crucible mouthpiece temperature. The pyrometer can be applied to both Intertypes and Linotype machines. The dial is graduated to read from zero to 800 deg. F. temperature range. It is said that if the initial temperature in the pot should be permitted to rise above the maximum temperature reading shown on the dial, on account of failure of the metal temperature control apparatus, no damage will occur to the pyrometer nor will its accuracy be impaired in any way.

The machinist understands that small-bodied slugs require the maintenance of a higher degree of temperature in the metal pot than that necessary for the casting of large-bodied slugs. He understands that the casting of large-bodied slugs displaces metal in the crucible at a much faster rate than that required for small-bodied slugs and hence special manipulation of the temperature controlling governors is necessary. He also finds, as his education progresses in handling the metal melting devices, that certain operations are necessary for maintaining the casting equipment in good condition, so that with experience he is able to adjust and maintain the casting equipment to secure average results.

Adjusting Metal and Mouthpiece Temperatures Has Been Guesswork

Adjusting mouthpiece burner or rheostat is a manual operation which is acquired only after much experience. The education of the machinist in this respect is undoubtedly attended by production losses. After having acquired the knack of adjusting the pot and mouthpiece burners to secure the best results on one machine, it is found that each machine requires a slightly different technique to secure the proper operating temperatures. Even after acquiring a general knowledge about temperature settings of the crucible and mouthpiece the machinist must admit that it is purely a matter of guesswork.

The temperature of the metal in the crucible may be determined readily by means of a thermometer or portable pyrometer. If the metal itself is known to be in correct balance and the casting mechanism is maintained properly, there remains the unknown factor of mouthpiece temperature. Mouthpiece temperature determination, until recently, has been purely guesswork. Inspecting the mouthpiece to see if it is "tinned" or if metal is solidified in the jets and vents is merely a superficial test which doesn't reveal very much because there are so many variable in-between temperatures which cannot be determined by the eye nor by the old-fashioned method of drawing a slug slowly across the mouthpiece. Honeycombed or "bleeding feet" in the bottom of the slugs as well as defective letter characters on the printing surface of the slugs may be ascribed largely to improper mouthpiece temperature.

Operation of Pyrometer

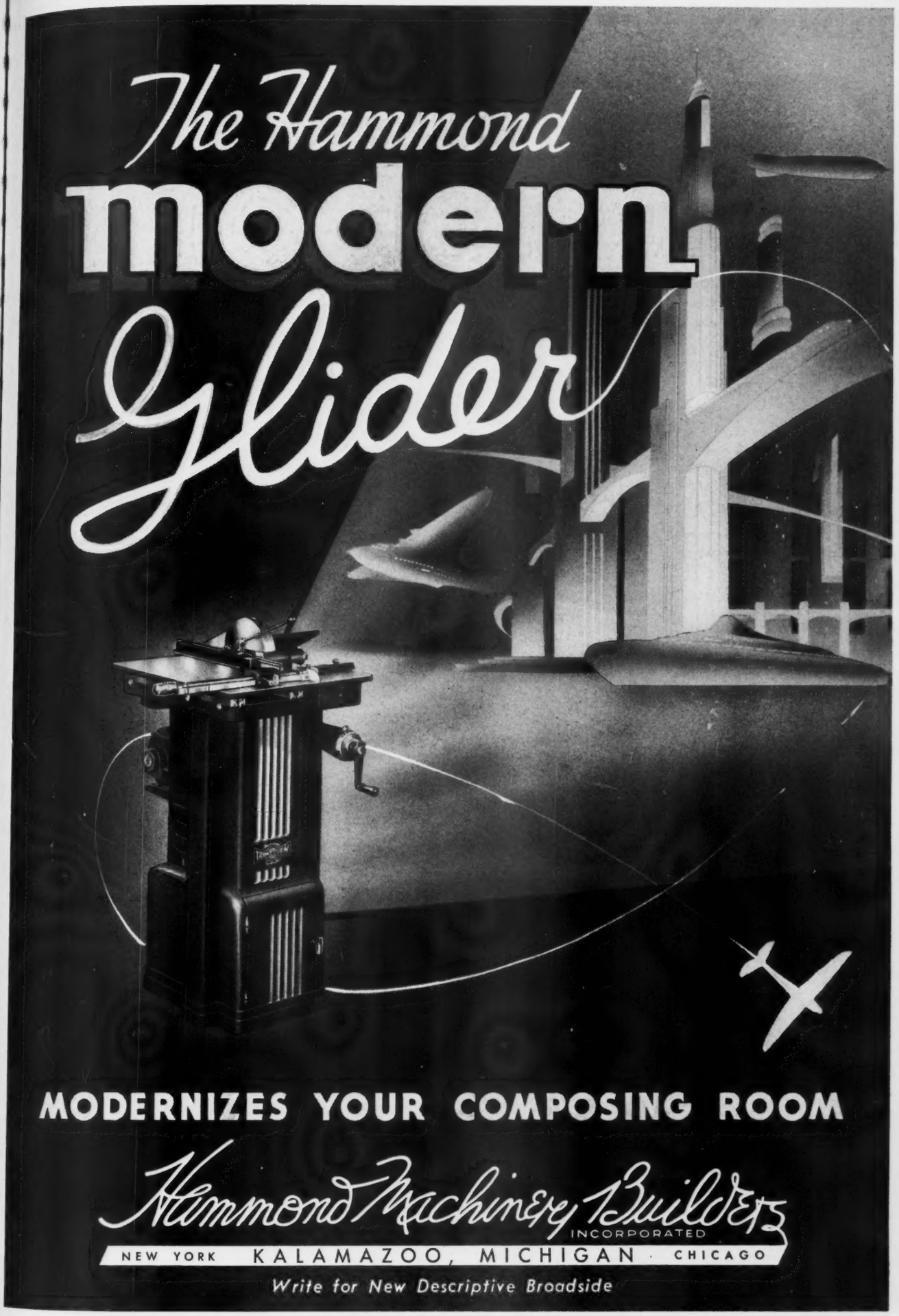
For the first time in the history of line composing machine practice, announcement has been made of the development of an instrument for application to Intertypes and Linotypes which will indicate separately the crucible temperature and the temperature of the crucible mouthpiece. This instrument is known as a two-point pyrometer which is mounted permanently at the top of the machine column in a position where its dial can be read easily.

Leading from the pyrometer is a cable in which are contained two elements. One of the elements is inserted through a hole in the top of the pot jacket and is immersed directly in the molten metal in the pot crucible and the other leads to a location on top of the mouthpiece just back of the mold disk rim. The element leading to the mouthpiece is held in position permanently on the mouthpiece by means of a clamp and two small screws.

A switch mounted on the pyrometer casing is turned through a small arc of a circle to obtain the mouthpiece and pot temperature readings. It will be noted that the pyrometer element leading to and which is immersed in the molten metal in the metal pot indicates the temperature of the metal in the crucible. The element leading and fastened to the crucible mouthpiece indicates the temperature of the mouthpiece. Turning the switch to the left causes the needle to indicate immediately the metal temperature. Turning the switch handle to the extreme right causes the needle to indicate the mouthpiece temperature. Turning the switch to "O" or the central position disconnects the pyrometer indicating apparatus from any connection with either of the elements leading from the metal pot. The switch may be left in any position indefinitely during operation of the machine.

Mouthpiece Operating Temperature

In making tests with this instrument several things which have been mysterious to machinists and machin-


The Hammond
modern
Glider
MODERNIZES YOUR COMPOSING ROOM
Hammond Machinery Builders
INCORPORATED
NEW YORK KALAMAZOO, MICHIGAN CHICAGO
Write for New Descriptive Broadside

DIXON HEAVY DUTY ROUTER

Routs . . . . . .

Zinc, Copper, Stereotype Electrotype, Wood

The Dixon Router and Type-high Planer is large and powerful enough to take care of the requirements of any size of newspaper, printing plant or engraving department. It is constructed to give years of dependable service. Send for further information.

Bench Model
$95.00

Pedestal Model
$125.00

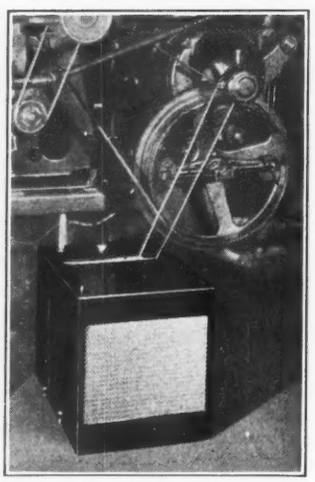
A few of the hundreds of users—

The Philadelphia Record
The Press, Sheboygan, Wis.
Daily Register, St. Paul
Norfolk Guide, Va.
Palm Beach Pub. Co., Fla.
Palladium, Richmond, Ind.
The Press, Rochester, N. Y.
The Star, Davenport, Iowa
Topeka Eng. Co., Topeka
Daily News, Williamson, W. Va.
Times-Journal, Oklahoma City, Okla.
The News, Brunswick, Ga.

WATER BILLS . . . . LIMING OF MOLDS INCONVENIENCE

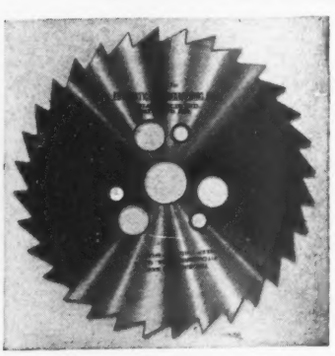
is Eliminated on Linotypes and Monotypes with the

MONOAQUA COOLER



It requires six quarts of soft water, which is circulated by a noiseless pump, cooled by means of two fan-cooled radiators driven direct from the machine, requiring no extra power. The Monoaqua Cooler, complete for Linotypes and Monotypes, $55.00.

SAW SHARPENING



Universal tooth saw for sawing linotype, stereotype and wood-mounted electrotypes. Furnished for any make of machine.

In our modernly equipped plant, which is the largest in the country for sharpening printers' and stereotypers' saws, your saws will be sharpened uniform in swage, shape and height, giving longer and better service. All saws returned the same day received, in our special self-addressed mailing carton.

NEW SAWS

Send for our low price and trade-in plan on new saws for any make of machine. Our saws are hollow ground and made of the very best of steel and are unconditionally guaranteed.

Automatic Saw Sharpening Co.
735-41 E. Ohio St. Indianapolis, Ind.

ist-operators were discovered. The proper operating temperature of the mouthpiece on an Intertype in a middle-western plant where experiments were conducted on average composition was shown to be 490 deg. F. This indicates what machinists have suspected but have had no way of proving: That the mouthpiece temperature must be higher than the temperature of the metal in the crucible and of a sufficient degree of heat to melt and flow off any metallic residue after each slug has been cast, as well as to maintain proper standby temperature while the pot is inoperative.

Riddle Solved

On a machine to which the two-point pyrometer had been applied, it was interesting to note that when the mouthpiece came into contact with the mold, the mouthpiece temperature was lowered sufficiently to show a deflection in the pyrometer dial reading. This answers a question which has engaged the attention of all machinists, *i.e.*, How can a mouthpiece be hot enough to permit metal to flow through it and at the same time be cold enough to permit the metal which has been injected into the mold to solidify against it? This would indicate that when the mold is contacted by the mouthpiece the temperature of the mouthpiece is lowered sufficiently to permit the molten metal in the mold to solidify against the mouthpiece and that this change in temperature is momentary.

This is conclusive evidence that if it were possible for the machinist to maintain this mouthpiece temperature (irrespective of mold temperature) solid slugs could be cast constantly.

Application of the pyrometer will enable the machinist or machinist-operator to maintain the mouthpiece at a constant and a known temperature so as to eliminate a common source of trouble which has never been overcome entirely before this time.

ADDITIONS TO INTERTYPE FACES

Among the most recent additions to Intertype faces is the 9-pt. size of Egmont Medium, said to be the result of a demand for an ideal size of this popular face for use in booklets, brochures, etc., where space is limited.

THIS PARAGRAPH is set in 8-point Cairo *with Italic* and Small Caps.

THIS PARAGRAPH set in 9-point Egmont Medium *with Italic* and Small Caps. A convenient and new

THIS PARAGRAPH set in 10-point Intertype Pen Bold. Made in sizes up

In the Cario family an Italic has been cut. Cario Italic is duplexed with Cario in sizes up to 14 pt. The Pen Bold series has been augmented by the addition of 10 and 12 pt. sizes. Paragraph exhibits of these three faces are shown above.

ON SECOND LEG OF TOUR

On arrival for a two-day exhibition at the La Salle Street Station, Chicago, the Printers Progress Special train had completed 5,000 miles of its 16,000-mile route. The time table had been adhered to rigidly, no mechanical, traffic or merchandising difficulties had developed and attendance at the showings in 24 cities had been 40 per cent above the estimates of the sponsors and printing trade officials.

Why Not Eliminate Bindery Problems?

Why Not Stop Rubbing and Scratching on Folding Machines?

Braden Sutphin Non-Scratch Black Makes This Possible

Qualifications:

Can be run full strength color without offset.

Will dry like steel—but will not crystallize.

Can be overprinted perfectly and also serves well as an overprint black.

Sets almost instantly. Dries rapidly.

Does not dry on press.

Can be used on process work—first or second down.

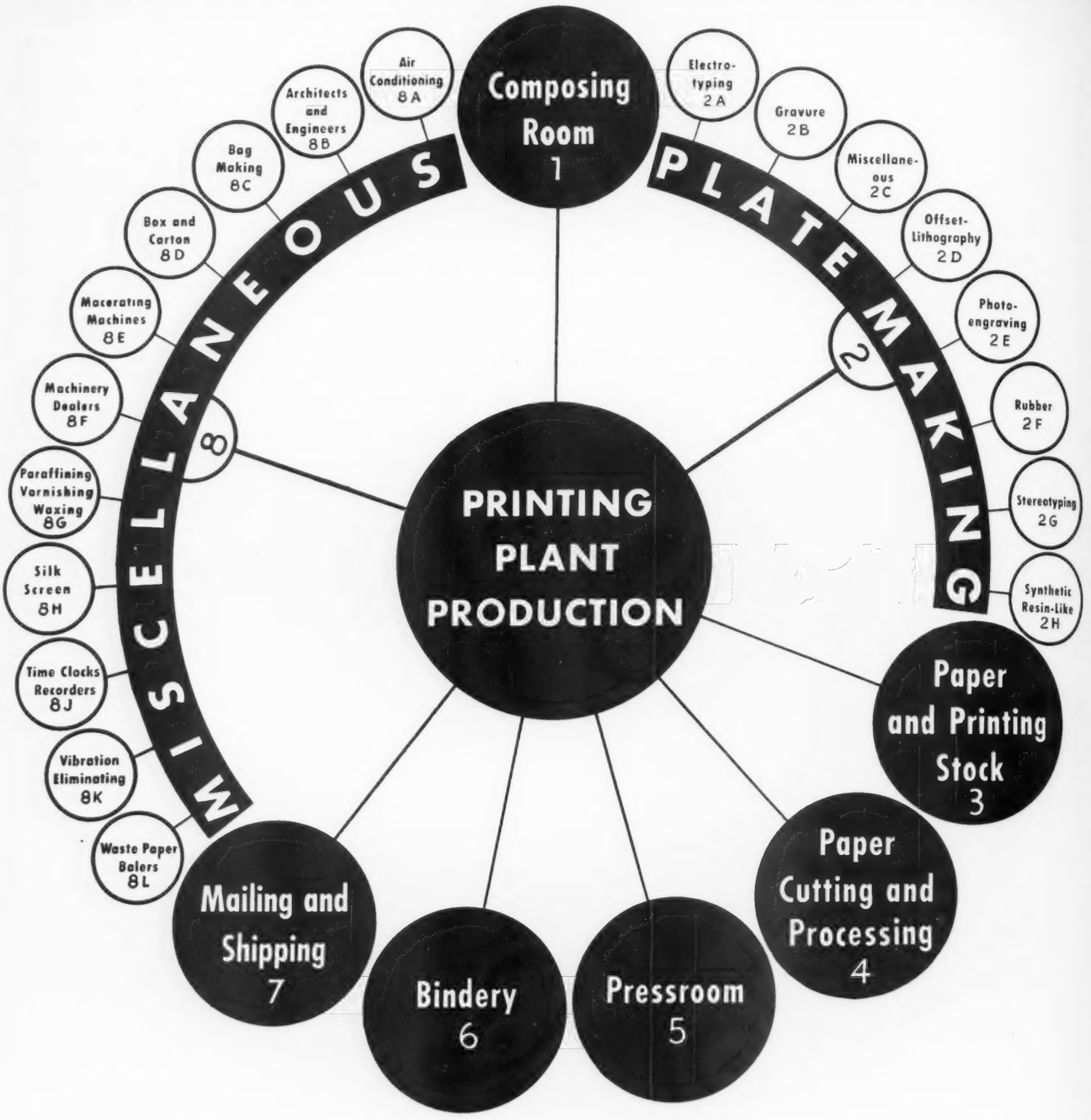
Made in light, heavy or medium body with any desired toner cast.

A post card will bring you a trial of this black that eliminates bindery and press room griefs.

●

The Braden Sutphin Ink Co.

1736 East 22nd Street . . . . . Cleveland, Ohio



For the Busy Printing Plant Executive:

This chart illustrates the arrangement of the P-Double-E Printing Equipment and Supplies Index. It is arranged to follow progressively the production departments of the printing plant and is divided into eight major sections representing, as nearly as possible, the production departments. Each department of the printing plant shown on this chart is represented by one of twenty-five individual indexes, which will be found in the following pages.

Printing EQUIPMENT *Engineer* has prepared these 25 individual indexes in connection with the P-Double-E Filing System for your convenience. Consult the index often—use it freely and set up one or more units of the P-Double-E Filing System so that you may have at hand manufacturers' and suppliers' literature when it is needed.

P-Double-E Filing System

Printing Equipment and Supplies Index

This index is a combined index and filing system. It has been prepared for direct reference by mechanical and production executives in the industry. Believing that these executives would prefer consulting an index broken down into eight separate printing plant departmental classifications, we have prepared this Equipment and Supplies Index by mechanical departments as commonly existing in the graphic arts industry.

By consulting the chart shown on the opposite page, the plan of the index will be understood at once. Our aim is to make it possible for an executive to consult directly that departmental index in which he wishes to find the manufacturer of a certain piece of equipment or a supply used in that department without the necessity for wading through alphabetical classifications of a continuous index. For example, if it is desired to locate the maker of composing room equipment or a supply, just turn to the Composing Room Index (1). In the same way, if a printing press manufacturer's address or product is wanted, turn to the Pressroom Index (5). All of the plate-making processes (eight subdivisions) have been grouped together under the title "2—Plate Making" in the second division of the index. For those classifications associated with printing plant production, but which cannot be included in the major departmental divisions, a Miscellaneous Index (8) has been provided. Scan each index key—consult each cross-index.

Each department in the printing plant has been given a key number and each item of equipment or supplies for that department has been given a symbol. The symbols serve to associate these items with the mechanical department in which the equipment or supplies items are used and provide an orderly means for setting up and using the P-Double-E Filing System.

Additions and corrections will be made as the need arises.

While the compilers have used every precaution to insure the correct listing and spelling of manufacturers' firm names, addresses and the equipment and products made by them, yet *Printing* Equipment *Engineer* cannot be responsible for omissions or errors.

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By
The Willsea Publishing Company

P-Double-E Filing System

1-—Composing Room Index

Key For Composing Room Index

- 1A Adhesives
- 1B Belts
  - 1B1 Cord Rubber (Linecasting)
  - 1B2 Dressing
  - 1B3 Fabricated
  - 1B4 Leather
- 1C Binders for Newspapers
- 1D Blowers (Portable Cleaning)
- 1E Cabinets, Stands, Typecases, etc.
- 1F Chases, Quoins and Lockup Accessories
- 1G Composing Machines and Supplies
  - 1G1 Keyboards, Keyboard Operating Units and Tape Perforators
  - 1G2 Lead and Rule Casters
  - 1G3 Machines
  - 1G4 Material Makers
  - 1G5 Matrices
  - 1G6 Matrix Cleaning
  - 1G7 Matrix Processing
  - 1G8 Parts
  - 1G12 Plunger Cleaner
  - 1G9 Supplies
  - 1G10 Type Casters
  - 1G11 Type Setting
- 1H Counters, Dating and Numbering Devices
- 1J Feeders
- 1K Furnaces (Remelting), Pig Molds and Tools
- 1L Furniture
  - 1L1 Composition
  - 1L2 Metal
  - 1L3 Wood
- 1M Galleys
- 1N Gauges
  - 1N1 Copyfitting
  - 1N2 Type-high
  - 1N3 Matrix
  - 1N4 Micrometers
  - 1N5 Plate
  - 1N6 Rules
- 1GG Lighting Units
- 1O Lead and Rule Cutters
- 1P Line-up and Register Tables
- 1Q Makeup and Storage Tables
- 1R Metal and Metal Flux
- 1S Mitreing Machines
- 1T Motors
- 1U Plate Mounting Systems
  - 1U1 Sectional
  - 1U2 Tools
  - 1U3 Cleaning Outfits
- 1V Presses
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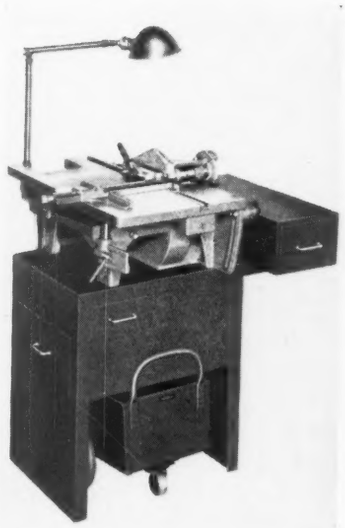

C. & G. Saw Trimmers are built to bring profit to their owners. They are productive, safe, accurate and economical. Exclusive C. & G. time-saving features give them an efficiency found in no other composing room saw.

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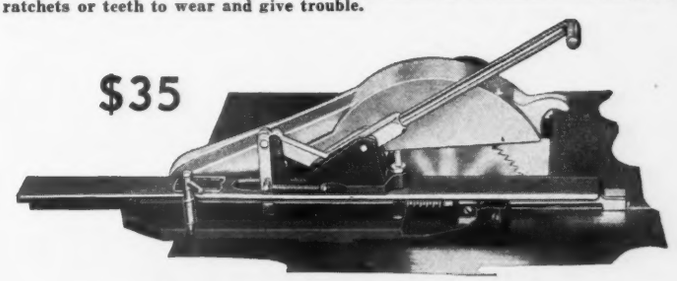

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Simply apply it as you apply your present swivel gauge. No fitting necessary. The Rapid Gauge is quick and accurate. Will take in measures from 6 points to 133 ems instantly. No need hunting for an extension gauge. Has "micrometer" adjustment to fractions of points. Can easily be applied to any saw besides the Miller and it is by far the best gauge ever conceived for any composing room saw.

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Rouse, H. B., Co., 2214 Ward St., Chicago, Ill.—1U1.. 63
Unique Steel Block Co., 304 Chemung St., Waverly, N. Y. —1U1, 1U2.
Warnock, W. S., Co., 1524 Jonquil Terrace, Chicago, Ill.—1U1.

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QUOINS, CHASES AND LOCK-UP ACCESSORIES
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1X3 Cutting, Creasing and Perforating Rule.
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Star Tool Works, 415 S. Yellow Springs St., Springfield, O.

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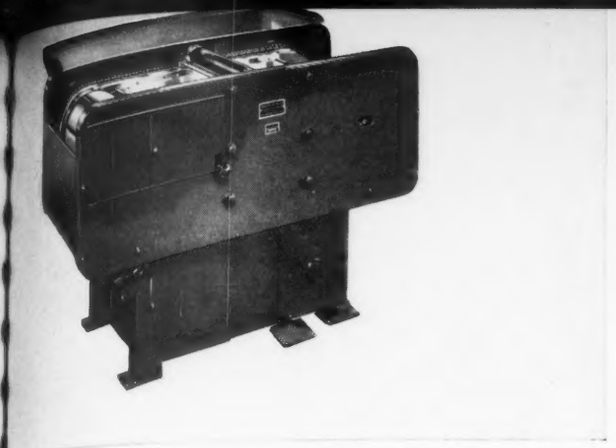
Testing Machines, Inc., 460 W. 34th St., New York, N. Y.



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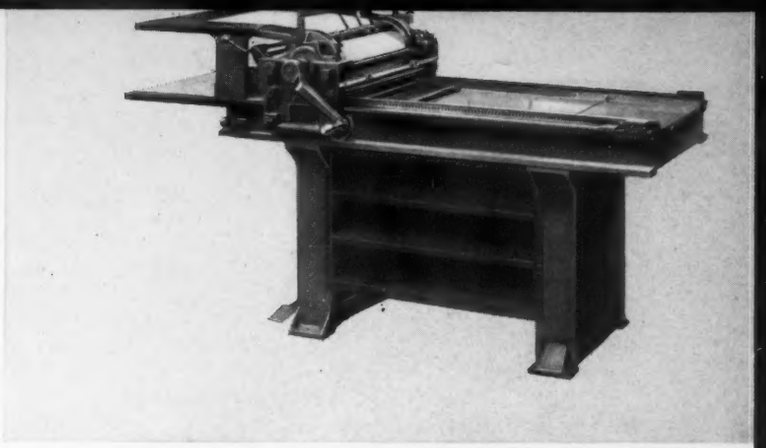

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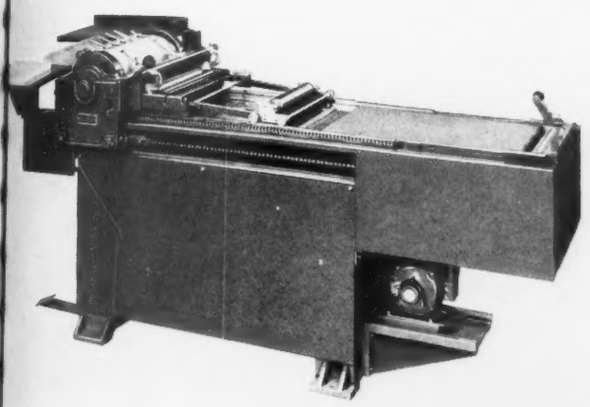

317 Vandercook
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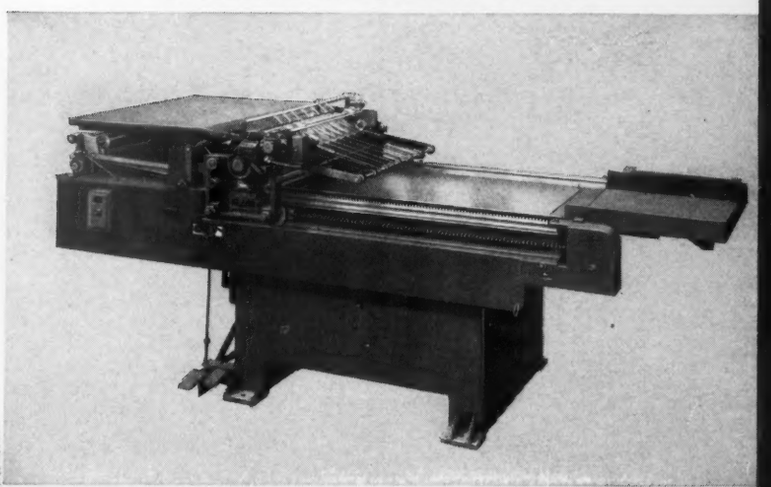

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1EE2 Borders.
1EE3 Brass.
1EE4 Casting Machine Matrix.
1EE5 Foundry.
1EE6 Steel.
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P-Double-E Filing System

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2A2 Equipment and Supplies
2A3 Gauges and Testing Instruments
2A9 Metal
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Valenti Metal Corp., 985 Grand St., Brooklyn, N. Y.—2A9.

Vandercook & Sons, 900 N. Kilpatrick Ave., Chicago, Ill.—2A2 99

Wagner Electric Corp., 6400 Plymouth Ave., St. Louis, Mo.—2A2.
Wesel Mfg. Co., 893 Providence Road, Scranton, Pa.—2A2.
Weston Electrical Instrument Corp., 614 Frelinghuysen Ave., Newark, N. J.—2A3.

P-Double-E Filing System

2B—Gravure Index

Key For Gravure Index

Air Conditioning
See 8A Miscellaneous

2B1 Cabinets, Racks, Stands
2B2 Cameras
2B3 Chemicals
2B4 Cylinder and Plate Making for the Trade
2B5 Cylinders and Plates
2B6 Doctor Blades
2B7 Grinding and Polishing Equipment
2B8 Inks. Also see 5W Pressroom
2B9 Lamps
2B10 Layout and Register Tables
Magnifying and Reducing Glasses. See 5BB Pressroom
2B11 Motors and Controls
Paper and Printing Stock
See 3—Paper and Printing Stock
2B12 Photo-Composing Machines
2B13 Presses. Also see 5LL Pressroom
2B13.1 Newsprint and Rotogravure
2B13.2 Rotogravure
2B13.3 Sheet-Fed
2B13.4 Web Offset and Rotogravure
2B14 Retouching Tables
2B21 Rollers
2B15 Screens
2B15.1 Lenticular
2B15.2 Standard
2B16 Supplies
2B16.1 Carbon Tissue
2B16.2 Film
2B16.3 Paper
2B16.4 Plates
2B16.5 Sensitized Tracing Cloth
2B22 Tanks, Etching
2B17 Testing Instruments
2B17.1 Densitometer
2B17.2 Colorvalhuemeter
2B17.3 Dotvalhuescope
2B18 Transfer Machines
2B19 Trucks
2B19.1 Cylinder
Paper Trucks—See 3—Paper and Printing Stock
2B20 Vacuum Printing Frames

Gravure Equipment and Supplies Cross-Index

A

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See 8A Miscellaneous.

B

BLADES, DOCTOR
See 2B6 Doctor Blades.

C

CABINETS, RACKS, STANDS 2B1
Allied Steel Equipment Co., Lapeer, Mich.
Berger Mfg. Co., 1038 Belden Ave., Canton, O.
Chemco Photoproducts Co., 230 W. 41st St., New York, N. Y.
Hamilton Mfg. Co ,Two Rivers, Wis.
Standard Process Corp., 734 W. Lexington St., Chicago, Ill.
Thompson Cabinet Co., Ludington, Mich.
Toledo Metal Furniture Co., The, 1100 Hastings St., Toledo, O.

CAMERAS 2B2
Chemco Photoproducts Co., 230 W. 41st St., New York, N. Y.
International Intaglio Corp., 45 W. 45th St., New York, N Y.

Lanston Monotype Machine Co., Twenty Fourth and Locust Sts., Philadelphia, Pa. 73

Levy, Max & Co., Wayne Ave. and Berkley St., Philadelphia, Pa.
Miles Machinery Co., 18 E. 16th St., New York, N. Y.
Nagel-Ryan Co., Inc., 4363 Woodward Ave., Royal Oak, Mich.
Photoengravers Supply Co., 716 W. Indiana Ave., Philadelphia, Pa.
Polygraphic Co. of America, The, 310 E. 45th St., New York, N. Y.
Robertson, R. R., 400 W. Madison St., Chicago, Ill.
Rutherford Machinery Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.

CARBON TISSUE
See under 2B16 Supplies.

CHEMICALS 2B3
Chemco Photoproducts Co., 230 W. 41st St., New York, N. Y.
Haloid Co., The, Haloid St., Rochester, N. Y.
Pitman, Harold M., Co., 51st Ave and 33rd St., Chicago, Ill.
Polygraphic Co. of America, The, 310 E. 45th St., New York, N. Y.
Standard Process Corp., 734 W. Lexington St., Chicago, Ill.
Teaneck Chemical Co., Walnut St., Teaneck, N. J.

Walker, E. H., Supply Co., 926 H St., N. W., Washington, D. C. 161

CLOTH, SENSITIZED TRACING
See under 2B16 Supplies.

COMPOSING MACHINE, PHOTO
See 2B12 Photo-Composing Machines.

CONTROLLERS FOR MOTORS
See 2B11 Motors and Controls.

CYLINDER GRINDING AND POLISHING EQUIPMENT
See 2B7 Grinding and Polishing Equipment.

CYLINDER AND PLATE MAKING FOR THE TRADE 2B4
Beck Engraving Co., 7th and Sansome Sts., Philadelphia, Pa.
Calvi-Tone Co., 659 E. Sixth St., Cincinnati, O.
Huebner Laboratories, 202 E. 44th St., New York, N. Y.
Rosenow Co., The, 340 W. Huron St., Chicago, Ill.

CYLINDERS AND PLATES 2B5
American Brass Co., The, 25 Broadway, New York, N. Y.
International Intaglio Corp., 45 W. 45th St., New York, N. Y.
Nagel-Ryan Co., Inc., 4363 Woodward Ave., Royal Oak, Mich.
Rolled Plate Metal Co., 210 Van Brunt St., Brooklyn, N. Y.....142
Standard Process Corp., 734 W. Lexington St., Chicago, Ill.

D

DENSITOMETER
See under 2B17 Testing Instruments.

DOCTOR BLADES 2B6
Atkins, E. C. & Co., 402 S. Illinois St., Indianapolis, Ind.
International Intaglio Corp., 45 W. 45th St., New York, N. Y.
Loyd, John Co., 87 Walker St., New York, N. Y.
Standard Process Corp., 734 W. Lexington St., Chicago, Ill.

E

ETCHING TANKS
See 2B22 Tanks, Etching.

F

FILM
See under 2B16 Supplies.

FRAMES, VACUUM PRINTING
See 2B20 Vacuum Printing Frames.

G

GLASSES, MAGNIFYING AND REDUCING
See 5BB Pressroom.

GRAVURE PRESSES
See under 2B13 Presses

GRINDING AND POLISHING EQUIPMENT 2B7
International Intaglio Corp., 45 W. 45th St., New York, N. Y.
Nagel-Ryan Co., Inc., 4363 Woodward Ave., Royal Oak, Mich.
Standard Process Corp., 734 W. Lexington St., Chicago, Ill.

H

HUMIDITY CONTROLLING DEVICES
See 8A Miscellaneous.

I

INKS 2B8
Also see 5W Pressroom.
American Printing Ink Co., Div. General Printing Ink Corp., 2314-2324 W. Kinzie St., Chicago, Ill.
Crescent Ink & Color Co. of Pa., 464 N. 5th St., Philadelphia, Pa.
Huber, J. M., Inc., 460 W. 34th St., New York, N. Y.....66-ABCD
International Printing Ink Corp., The, 75 Varick St., New York, N. Y.....48-49
Johnson, Charles Eneu, Co., 10th and Lombard Sts., Philadelphia, Pa.
Johnson-King Co., 515 S. Wells St., Chicago, Ill.
Levey, Fred'k H. Co., Inc., 59 Beekman St., New York, N. Y.....29
Morrill, George H., Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.....15
Roosen, H. D., Co., Foot of 20th and 21st Sts., Brooklyn, N. Y.
Rotogravure Div., General Printing Ink Corp., East Rutherford, N. J.
Sinclair & Valentine Co., 11 St. Clair Pl., New York, N. Y.
Triangle Ink & Color Co., 26 Front St., Brooklyn, N. Y.

INSTRUMENT, TESTING
See under 2B17 Testing Instruments.

INTAGLIO PRESSES
See under 2B13 Presses.

L

LAMPS 2B9
Atlas Electric Devices Co., 361 W. Superior St., Chicago, Ill.
Gelb, Joseph Co., 250 W. 54th St., New York, N. Y.
International Intaglio Corp., 45 W. 45th St., New York, N. Y.
Macbeth Arc Lamp Co., 875 N. 28th St., Philadelphia, Pa.
Miles Machinery Co., 18 E. 16th St., New York, N. Y.
Pease, The C F. Co., 852 N. Franklin St., Chicago, Ill.
Photoengravers Supply Co., 716 W. Indiana Ave., Philadelphia, Pa.
Polygraphic Co. of America, The, 310 E. 45th St., New York, N. Y.

LAYOUT AND REGISTER TABLES 2B10
Craftsman Line-up Table Corp., 49-59 River St., Waltham, Mass.
Hamilton Mfg. Co., Two Rivers, Wis.
International Intaglio Corp., 45 W. 45th St., New York, N. Y.
Lanston Monotype Machine Co., Twenty Fourth and Locust Sts., Philadelphia, Pa.....18
Robertson, R. R., 400 W. Madison St., Chicago, Ill.
Rutherford Machinery Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.
Standard Process Corp., 734 W. Lexington St., Chicago, Ill.

LENTICULAR SCREENS
See under 2B15 Screens.

M

MAGNIFYING AND REDUCING GLASSES
See 5BB Pressroom.

MOTORS AND CONTROLS 2B11
Century Electric Co., 1806 Pine St., St. Louis, Mo.
Cline Electric Mfg. Co., 211 West Wacker Drive, Chicago, Ill.....12-13
General Electric Co., 1 River Rd., Schenectady, N. Y..64-65
Kimble Electric Co., 2011 Hastings St., Chicago, Ill...157
Monitor Controller Co., 51 S. Gay St., Baltimore, Md.
Northwestern Electric Co., 408 S. Hoyne Ave., Chicago, Ill.

N

NEWSPRINT AND ROTOGRAVURE PRESSES
See under 2B13 Presses.

P

PAPER CONDITIONING
See 8A Miscellaneous.

PAPER AND PRINTING STOCK
See 3 Paper and Printing Stock.

PAPER, SENSITIZED
See under 2B16 Supplies.

PHOTO-COMPOSING MACHINES 2B12
Lanston Monotype Machine Co., Twenty-fourth and Locust, Philadelphia, Pa.....18
Rutherford Machinery Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.

PLATE MAKING FOR THE TRADE
See 2B4 Cylinder and Plate Making.

PLATES, SENSITIZED
See under 2B16 Supplies.

PRESSES, 2B13 ALSO SEE 5LL PRESSROOM
2B13.1 Newsprint and Rotogravure.
2B13.2 Rotogravure.
2B13.3 Sheet-Fed.
2B13.4 Web Offset and Rotogravure.
Chambon Corp., 911 New York Ave., Union City, N. J. —2B13.4.
General Printing Machinery Corp., 29 Ryerson St., Brooklyn, N. Y.—2B13.3.
Goss Printing Press Co., The, 1535 S. Paulina St., Chicago, Ill.—2B13.1, 2B13.2. Inside front cover-Page 3
Harris Seybold Potter Co., 4510 E. 71st St., Cleveland, O.—2B13.1, 2B13.2, 2B13.4.....222
Heinrich, H. H., Inc., 200 Varick St., New York, N. Y. —2B13.2, 2B13.3.
Hoe, R & Co., 910 E. 138th St., New York, N. Y.— 2B13.1, 2B13.2, 2B13.3.....18-ABCD
International Intaglio Corp., 45 W. 45th St., New York, N. Y.—2B13.2, 2B13.3.
Murphy, Geo., Inc., 57 E. 9th St., New York, N. Y.— 2B13.3.
Nagel-Ryan Co., Inc., 4363 Woodward Ave., Royal Oak, Mich.—2B13.1, 2B13.2, 2B13.3, 2B13.4.
Potdevin Machine Co., 1220 38th St., Brooklyn, N. Y.— 2B13.2.
Rotogravure Engineering Co., 299 Marginal St., East Boston, Mass.—2B13.2, 2B13.3.
Scott, Walter & Co., Plainfield, N. J.—2B13.1, 2B13.2, 2B13.4.....87
Standard Process Corp., 734 W. Lexington St., Chicago, Ill.—2B13.2.
Wood Newspaper Machinery Corp., 501 Fifth Ave., New York, N. Y.—2B13.2.....21

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See 2B11 Motors and Controls.

PRINTING PRESSES
See 2B13 Presses.

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See 2B7 Grinding and Polishing Equipment.

R

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See 2B1 Cabinets, Racks, Stands.

REDUCING AND MAGNIFYING GLASSES
See 5BB Pressroom.

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See 2B10 Layout and Register Tables.

RETOUCHING TABLES 2B14
Standard Process Corp., 734 W. Lexington St., Chicago, Ill.

ROLLERS 2B21
Goodyear Tire & Rubber Co., The, Akron, O.....36
Rapid Roller Co., 2558 S. Federal St., Chicago, Ill.

ROTOGRAVURE AND NEWSPRINT PRESSES
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ROTOGRAVURE PRESSES
See under 2B13 Presses.

S

SCREENS 2B15
2B15.1 Lenticular.
2B15.2 Standard.
Horn & Norris, Inc., 2729 Prospect Ave., Cleveland, O.— 2B15.1.
International Intaglio Corp., 45 W. 45th St., New York N. Y.—2B15.
Levy, Max & Co., Wayne Ave. and Berkley St., Philadelphia, Pa.—2B15.2.
Miles Machinery Co., 18 E. 16th St., New York, N. Y.— 2B15.
Polygraphic Co. of America, The, 310 E. 45th St., New York, N. Y.—2B15.2.
Repro Art Machinery Co., Wayne Ave. and Berkley St., Philadelphia, Pa.—2B15.2.

SENSITIZED PAPER
See under 2B16 Supplies.

SENSITIZED PLATES
See under 2B16 Supplies.

SENSITIZED TRACING CLOTH
See under 2B16 Supplies.

SHEET-FED PRESSES
See under 2B13 Presses.

STANDS
See 2B1 Cabinets, Racks, Stands.

STOCK, PAPER AND PRINTING
See 3—Paper and Printing Stock.

SUPPLIES 2B16
2B16.1 Carbon Tissue.
2B16.2 Film.
2B16.3 Paper.
2B16.4 Plates.
2B16.5 Sensitized Tracing Cloth.
Atlantic Zinc Works, Rolled Plate Metal Co., 210 Van Brunt St., Brooklyn, N. Y.—2B16.4.....142
Chemco Photoproducts Co., 230 W. 41st St., New York, N. Y.—2B16.2.
Eastman Kodak Co., Rochester, N. Y.—2B16.2, 2B16.3, 2B164, 2B16.5.
General Printing Machinery Corp., 29 Ryerson St., Brooklyn, N. Y.
Hammer Dry Plate Co, Ohio and Miami Sts., St. Louis, Mo.—2B16.1, 2B16.2, 2B16.3, 2B16.4.
International Intaglio Corp., 45 W. 45th St., New York, N. Y.
Johnson-King Co., 709 W. 49th Place, Chicago, Ill.
Murphy, George, Inc., 57 E. 9th St., New York, N. Y.— 2B16.
Nagel-Ryan Co., Inc., 4363 Woodward Ave., Royal Oak, Mich.—2B16.1.
Revere Copper & Brass, Inc., 230 Park Ave., New York, N. Y.—2B16.4.
Standard Engraving Equipment Co., 655 S. Wells St., Chicago, Ill.....150
Unbekannt, C., 528 Palisade Ave., Weehawken, N. J.

T

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TANKS ETCHING 2B22
U. S. Stoneware Co., 60 E. 42nd St., New York, N. Y. . 161

TEMPERATURE REGULATING DEVICES
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TESTING INSTRUMENTS 2B17
2B17.1 Densitometer.
2B17.2 Colorvalhuemeter.
2B17.3 Dotvalhuescope.
Huebner Laboratories, 202 E. 44th St., New York, N. Y. —2B17.2, 2B17.3.

TISSUE, CARBON
See under 2B16 Supplies.

TRACING CLOTH, SENSITIZED
See under 2B16 Supplies.

TRADE CYLINDERS AND PLATES
See 2B4 Cylinder and Plate Making.

TRANSFER MACHINES 2B18
International Intaglio Corp., 45 W. 45th St., New York, N. Y.
Nagel-Ryan Co., Inc., 4363 Woodward Ave., Royal Oak, Mich.
Standard Process Corp., 734 W. Lexington St., Chicago, Ill.

TRUCKS 2B19
2B19.1 Cylinder.
Paper Trucks. See 3—Paper and Printing Stock.
International Intaglio Corp., 45 W. 45th St., New York, N. Y.
Nagel-Ryan Co., Inc., 4363 Woodward Ave., Royal Oak, Mich.
Standard Process Corp., 734 W. Lexington St., Chicago, Ill.
Tucker-Dorsey Mfg. Corp., 302 S. State St., Indianapolis, Ind.

TURNING AND POLISHING EQUIPMENT
See 2B7 Grinding and Polishing Equipment.

V

VACUUM PRINTING FRAMES 2B20
Atlas Electric Devices Co., 361 W. Superior St., Chicago, Ill.
International Intaglio Corp., 45 W. 45th St., New York, N. Y.
Lanston Monotype Machine Co., Twenty Fourth and Locust Sts., Philadelphia, Pa. 18
Levy, Max & Co., Wayne Ave. & Berkley St., Philadelphia, Pa.
Polygraphic Co. of America, The, 310 E. 45th St., New York, N. Y.
Repro Art Machinery Co., Wayne Ave. and Berkley St., Philadelphia, Pa.
Rutherford Machinery Co., Div. of General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.
Standard Process Corp., 734 W. Lexington St., Chicago, Ill.
Sweigard Ideal Co., 6122 N. 21st St., Philadelphia, Pa.
Walker, E. H., Supply Co., 926 H St., N. W., Washington, D. C. 161

W

WEB OFFSET AND ROTOGRAVURE PRESSES
See under 2B13 Presses.

P-Double-E Filing System

2C—Miscellaneous Plate Making Index

Key for Miscellaneous Plate Making Index

2C1 Bank Note Engraving Machinery
2C1.1 Steel Plates
2C5 Chalk Plate Making Materials
2C2 Engraver's Wood
2C3 Linoleum Block
2C3.1 Linoleum
2C3.2 Tools
2C4 Photo Film

Miscellaneous Plate Making Equipment and Supplies Index

Acme Wood Type & Mfg. Co., 61 Beekman St., New York, N. Y.—2C2.
American Steel & Copper Plate Co., The, 101-111 Fairmount Ave., Jersey City, N. J.—2C1.1.
Dickinson, C. W. Jr., 321 Cortland St., Belleville, N. J.—2C1.
Empire Wood Type & Engraving Co., 252 Water St., New York, N. Y.—2C2, 2C3, 2C3.1.
Hoke Engraving Plate Co., 1024 Park Ave., St. Louis, Mo. —2C1.1, 2C5.
Photo Half Tone Co., 5406 Winthrop Ave., Chicago, Ill. —2C4.

P-Double-E Filing System

2D—Offset-Lithography Index

Key For Offset-Lithography Index

Air Conditioning
See 8A Miscellaneous

2D1 Blankets
Bronzing Machines
See 5F Pressroom

2D2 Cameras

2D3 Chemicals

2D4 Dampening Means

2D5 Deep Etch Method

2D6 Dry Plate Negative Materials

2D7 Etching Machines

2D8 Films

2D9 Flannel

2D10 Graining Machines

2D11 Graining Sands

2D12 Inks. Also see 5W Pressroom

2D13 Lamps

2D14 Layout, Makeup, Register and Stripping Tables
2D14.1 Layout
2D14.2 Makeup
2D14.3 Register
2D14.4 Stripping

Magnifying and Reducing Glasses. See 5BB Pressroom

2D15 Moleskin and Molleton

2D16 Motors and Controls

2D17 Offset Preventing Equipment
Paper and Printing Stock
See 3—Paper and Printing Stock

2D18 Paper for Negatives

2D19 Photo-Composing Machines

2D20 Photo-Lettering Machines

2D21 Plate Coating and Whirling Machines

2D22 Plates, Aluminum and Zinc

2D23 Printing Frames

2D24 Printing Presses. Also see 5LL Pressroom
2D24.1 Sheet-Fed
2D24.2 Web

2D25 Proof Presses

2D26 Rollers. Also see 5NN Pressroom

Recorders, Time Clocks
See 8J Miscellaneous

2D27 Retouching Stands

2D28 Screens
2D28.1 Lenticular
2D28.2 Standard

2D29 Shading Machines and Shading Mediums

2D30 Stick-Up Sheets

2D31 Stones and Grinders

2D32 Supplies
Time Clocks, Recorders
See 8J Miscellaneous

2D33 Transfer Paper

2D34 Transfer Presses
Trucks, Paper—See 3—Paper and Printing Stock

2D35 Vacuum Printing Frames

2D36 Washup Devices

Offset-Lithography Equipment and Supplies Cross-Index

A

AIR CONDITIONING
See 8A Miscellaneous.

ALUMINUM AND ZINC PLATES
See 2D22 Plates, Aluminum and Zinc.

ANTI-OFFSET EQUIPMENT
See 2D17 Offset Preventing Equipment.

B

BLANKETS 2D1

Best, Edward H. & Co., 222 Purchase St., Boston, Mass.
California Ink Co., The, 545 Sansome St., San Francisco, Calif.
Chemco Photoproducts Co., 230 W. 41st., New York, N. Y.
Corkpak Co., The, 250 E. 43rd St., New York, N. Y. 157
Durbrow & Hearne, 12 Wooster St., New York, N. Y.
Goodrich, B. F. Rubber Co., 434 S. Main St., Akron, O. 10
Goodyear Tire & Rubber Co., The, Akron, O. 36
House, Chas. W. & Sons, 505 Fifth Ave., New York, N. Y.
Ideal Roller & Mfg. Co., 2512 W. 24th St., Chicago, Ill. 69
McKinley Litho Supply Co., 1620 John St., Cincinnati, O.
Rapid Roller Co., 2558 S. Federal St., Chicago, Ill.
Roberts & Porter, Inc., 402 S. Market St., Chicago, Ill.
Senefelder Co., The, 32 Greene St., New York, N. Y.
Vulcan Proofing Co., 1st Ave. and 58th St., Brooklyn, N. Y. 25

BRONZING MACHINES
See 5F Pressroom

C

CAMERAS 2D2

Agfa-Ansco Corp., Binghamton, N. Y.
Aurora School of Photo-Engraving, The, Aurora, Mo.
Bausch & Lomb Optical Co., 685 St. Paul St., Rochester, N. Y.
California Ink Co., The, 545 Sansome St., San Francisco, Calif.
Chemco Photoproducts Co., 230 W. 41st St., New York, N. Y.
Douthitt Corp., The, 650 W. Baltimore Ave., Detroit, Mich.
Eastman Kodak Co., Rochester, N. Y.
Lanston Monotype Machine Co., Twenty Fourth and Locust Sts., Philadelphia, Pa. 18
Levy, Max & Co., Wayne Ave. and Berkley St., Philadelphia, Pa.
McKinley Litho Supply Co., 1620 John St., Cincinnati, O.
Miles Machinery Co., 18 E. 16th St., New York, N. Y.
Pitman, Harold M., Co., 51st Ave. and 33rd St., Jersey City, N. J.
Polygraphic Co. of America, The, 310 E. 45th St., New York, N. Y.
Repro Art Machinery Co., Wayne Ave. and Berkley St., Philadelphia, Pa.
Robertson, R. R., 400 W. Madison St., Chicago, Ill.
Rutherford Machinery Co., Div. of General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.
Wesel Mfg. Co., Scranton, Pa.
Zeiss, Carl, Inc., 485 Fifth Ave., New York, N. Y.

CHEMICALS 2D3

California Ink Co., The, 545 Sansome St., San Francisco, Calif.
Chemco Photoproducts Co., 230 W. 41st St., New York N. Y.
Eastman Kodak Co., Rochester, N. Y.
Fuchs & Lang Mfg. Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.
Haloid Co., The, Haloid St., Rochester, N. Y.
Hunt, Philip A. Co., 253 Russell St., Brooklyn, N. Y.
International Printing Ink Corp., 75 Varick St., New York, N. Y. 48-49
LaMotte Chemical Products Co., McCormick Bldg., Baltimore, Md.
Mallinckrodt Chemical Works, 2nd and Mallinckrodt Sts., St. Louis, Mo.
McKinley Litho Supply Co., 1620 John St., Cincinnati, O.
Pitman, Harold M., Co., 51st Ave. and 33rd St., Chicago, Ill.
Polygraphic Co. of America, The, 310 E. 45th St., New York, N. Y.
Rogers Isinglass & Glue Co., 210 Eastern Ave., Gloucester, Mass.
Senefelder Co., The, 32 Greene St., New York, N. Y.
Siebold, J. H. and G. B., Inc., 47 Watts St., New York, New York.
Teaneck Chemical Co., Walnut St., Teaneck, N. J.
Uvachrom Emulsion Co., Walnut St., Teaneck, N. J.
Walker, E. H., Supply Co., 926 H St., N. W., Washington, D. C. 161

COATING MACHINES FOR PLATES
See 2D21 Plate Coating and Whirling Machines.

CONTROLS AND MOTORS
See 2D16 Motors and Controls.

COVERING FOR DAMPENING ROLLERS
See Flannel 2D9.

D

DAMPENING MEANS 2D4

DEEP ETCH METHOD 2D5

DEVICES FOR DAMPENING
See 2D4 Dampening Means.

DEVICES FOR PRESS WASHUP
See 2D36 Washup Devices.

DRIVES FOR PRINTING PRESSES
See 2D16 Motors and Controls.

DRY PLATE NEGATIVE MATERIALS 2D6

Eastman Kodak Co., Rochester, N. Y.
Hammer Dry Plate Co., Ohio and Miami Sts., St. Louis, Mo.
Polygraphic Co. of America, The, 310 E. 45th St., New York, N. Y.

E

EQUIPMENT FOR PREVENTING OFFSET
See 2D17 Offset Preventing Equipment.

ETCHING MACHINES 2D7

Robertson, R. R. 400 W. Madison St., Chicago, Ill.
U. S. Stoneware Co., 60 E. 42nd St., New York, N. Y.

ETCHING METHOD, Deep
See 2D5 Deep Etch Method.

F

FILMS 2D8

Haloid Co., The, Haloid St., Rochester, N. Y.
Hammer Dry Plate Co., Ohio and Miami Sts., St. Louis, Mo.
Polygraphic Co. of America, The, 310 E. 45th St., New York, N. Y.

FLANNEL 2D9

Best, Edward H. & Co., 222 Purchase St., Boston, Mass.
House, Chas. W., & Sons, 505 Fifth Ave., New York, N. Y.
McKinley Litho Supply Co., 1620 John St., Cincinnati, O.
Roberts & Porter, Inc., 402 S. Market St., Chicago, Ill.

FRAMES, PRINTING
See 2D23 Printing Frames.

FRAMES, VACUUM PRINTING
See 2D35 Vacuum Printing Frames.

G

GLASSES, MAGNIFYING AND REDUCING
See 5BB Pressroom.

GRAINING MACHINES 2D10

Hoe, R., & Co., Inc., 910 E. 138th St., New York, N. Y. 18-ABCD
McKinley Litho Supply Co., 1620 John St., Cincinnati, O.
Ostrander-Seymour Co., The, 1874 S. 54th Ave., Cicero Sta., Chicago, Ill.
Rutherford Machinery Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.
Senefelder Co., The, 32 Greene St., New York, N. Y.
Zarkin Machine Co., Inc., 335 E. 27th St., New York, N. Y.

GRAINING SANDS 2D11

Senefelder Co., The, 32 Greene St., New York, N. Y.

GRINDERS AND STONES
See 2D31 Stones and Grinders.

I

INKS 2D12
Also see 5W Pressroom.

Acheson Ink Co., Inc., 142 Skillen St., Buffalo, N. Y.
Acme Printing Ink Co., 1315 W. Congress St., Chicago, Ill.
American Printing Ink Co., Div. General Printing Ink Corp., 2314-2324 W. Kinzie St., Chicago, Ill.
Auld, Hampton, Inc., 104-106 Verona Ave., Newark, N. J.
Braden-Sutphin Ink Co., The, 1736 E. 22nd St., Cleveland, Ohio....91
California Ink Co., The, 545 Sansome St., San Francisco, Calif.
Carlson, John P., Inc., 420 Carroll St., Brooklyn, N. Y.
Consolidated Printing Ink Co., 431 N. Griggs St., St. Paul, Minn.
Crescent Ink & Color Co. of Pa., 464 N. Fifth St., Philadelphia, Pa.
Eagle Printing Ink Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.
Fuchs & Lang Mfg. Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.
Herrick, Wm. C. Ink Co., Inc., 325 W. 34th St., New York, N. Y....156
Hill-Hentschel Co., 301 S. Vandeventer Ave., St. Louis, Mo.
Huber, J. M., Inc., 460 W. 34th St., New York, N. Y....66-ABCD
International Printing Ink Corp., The, 75 Varick St., New York, N. Y....48-49
Johnson, Charles Eneu Co., 10th & Lombard Sts., Philadelphia, Pa.
Kohl & Madden Printing Ink Co., 731 Plymouth Court, Chicago, Ill.
Levey, Fred'k H. Co., Inc., 59 Beekman St., New York, N. Y....29
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McKinley Litho Supply Co., 1620 John St., Cincinnati, O.
Prescott, H. S., 238 Dwight St., Springfield, Mass.
Roberts, Lewis, Inc., 72 Union St., Newark, N. J.
Roberts & Porter, Inc., 402 S. Market St., Chicago, Ill.
Roosen, H. D. Co., Foot of 20th and 21st Sts., Brooklyn, N. Y.
Senefelder Co., The, 32 Greene St., New York, N. Y.
Siebold, Inc., J. H. & G. B., 47 Watts St., New York, N. Y.
Sigmund Ullman Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.
Sinclair & Valentine Co., Inc., 11-21 St. Clair Pl., New York, N. Y.
Sleight Metallic Ink Co. of Penna., Inc., 538 N. 3rd St., Philadelphia, Pa.
Standard Printing Ink Co., The, Div. International Printing Ink Corp., 1644 Providence St., Cincinnati, O.
Stevens, Frank H. Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.
Superior Printing Ink Co., Inc., 295 Lafayette St., New York, N. Y.
Triangle Ink & Color Co., 26 Front St., Brooklyn, N. Y.
Winslow Ink Corp., 124 White St., New York, N. Y.

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Aurora School of Photo-Engraving, The, Aurora, Mo.
Gelb, Joseph Co., 250 W. 54th St., New York, N. Y.
Macbeth Arc Lamp Co., 875 N. 28th St., Philadelphia, Pa.
Pease, The C. F. Co., 852 N. Franklin St., Chicago, Ill.
Polygraphic Co. of America, The, 310 E. 45th St., New York, N. Y.

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Robertson, R. R., 400 W. Madison St., Chicago, Ill.—2D14.2.
Rutherford Machinery Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.
Ryan, E. G. & Co., 727 S. Dearborn St., Chicago, Ill.—2D14.1.

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Roberts & Porter, Inc., 402 S. Market St., Chicago, Ill.
Siebold, J. H. & G. B., Inc., 47 Watts St., New York, N. Y.

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Century Electric Co., 1806 Pine St., St. Louis, Mo.
Cline Electric Mfg. Co., 211 West Wacker Drive, Chicago, Ill....12-13
Cutler-Hammer, Inc., N. 12th St. and W. St. Paul Ave., Milwaukee, Wis.
General Electric Co., 1 River Rd., Schenectady, N. Y..64-65
Kimble Electric Co., 2011 Hastings St., Chicago, Ill...157
Marathon Electric Mfg. Corp., P. O. Box 440, Wausau, Wis.
Monitor Controller Co., 51 S. Gay St., Baltimore, Md.
Northwestern Electric Co., 408 S. Hoyne Ave., Chicago, Ill.
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Cleanprint, Inc., 225 Varick St., New York, N. Y.

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Haloid Co., The, Haloid St., Rochester, N. Y.
Hammer Dry Plate Co., Ohio and Miami Sts., St. Louis, Mo.

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Coxhead, Ralph C., Corp., 17 Park Place, New York, N. Y.
Eureka Photo Mechanical Equipment, Inc., 350 W. 31st St., New York, N. Y.
Lanston Monotype Machine Co., Twenty-fourth and Locust Sts., Philadelphia, Pa....18

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Coxhead, Ralph C. Corp., 17 Park Place, New York, N. Y.
Rutherford Machinery Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.

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Chemco Photoproducts Co., 230 W. 41st St., New York, N. Y.
Douthitt Corp., The, 650 W. Baltimore Ave., Detroit, Mich.
Eureka Photo Mechanical Equipment, Inc., 350 W. 31st St., New York, N. Y.
Lanston Monotype Machine Co., Twenty-fourth and Locust Sts., Philadelphia, Pa....18
McKinley Litho Supply Co., 1620 John St., Cincinnati, O.
Ostrander-Seymour Co., The, 1874 S. 54th Ave., Cicero Sta., Chicago, Ill.
Robertson, R. R., 400 W. Madison St., Chicago, Ill.
Rutherford Machinery Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.
Ryan, E. G. & Co., 727 S. Dearborn St., Chicago, Ill.
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Zarkin Machine Co., Inc., 335 E. 27th St., New York, N. Y.

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McKinley Litho Supply Co., 1620 John St., Cincinnati, O.
Photo Litho Plate Graining Co., The, 1207 S. Highland Ave., Baltimore, Md.
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Sweigard Ideal Co., 6122 N. 21st St., Philadelphia, Pa.

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Nagel-Ryan Co., Inc., 4363 Woodward Ave., Royal Oak, Mich.—2D24.1, 2D24.2.
New Era Mfg. Co., The, 375 Eleventh Ave., Paterson, N. J. —2D24.2.
Rutherford Machinery Co., Div. of General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.
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Rutherford Machinery Co., Div. of General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.
Wagner, Chas., Litho Machinery Co., 51 Park Ave., Hoboken, N. J.

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Bingham Bros. Co., 406 Pearl St., New York, N. Y.
Bingham & Runge Co., The, 1374 E. 12th St., Cleveland, O.
Bingham's, Samuel, Son, Mfg. Co., 636 Sherman St., Chicago, Ill., with branches in principal printing centers throughout the country.
California Ink Co., The, 545 Sansome St., San Francisco, Calif.
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Rapid Roller Co., 2558 Federal St., Chicago, Ill.
Roberts & Porter, Inc., 402 S. Market St., Chicago, Ill.
Siebold, J. H. & G. B., Inc., 47 Watts St., New York, N. Y.
Vogt Roller Co., Inc., 222 S. 12th St., Louisville, Ky.
Vulcan Proofing Co., 1st Ave. & 58th St., Brooklyn, N. Y. .25
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Polygraphic Co. of America, The, 310 E. 45th St., New York, N. Y.
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Senefelder Co., The, 32 Greene St., New York, N. Y.

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California Ink Co., 545 Sansome St., San Francisco, Calif.
Chemco Photoproducts Co., 230 W. 41st St., New York, N. Y.
Dom, G. C., Supply Co., Cincinnati, O.
Eastman Kodak Co., Rochester, N. Y.
Eureka Photo Mechanical Equipment, Inc., 350 W. 31st St., New York, N. Y.
McKinley Litho Supply Co., 1620 John St., Cincinnati, O.
Miles Machinery Co., 18 E. 16th St., New York, N. Y.
Ostrander-Seymour Co., The, 1874 S. 54th Ave., Cicero Station, Chicago, Ill.
Photo Litho Plate Graining Co., The, 1207 S. Highland Ave., Baltimore, Md.
Pitman, Harold M , Co., 51st Ave. & 33rd St., Chicago, Ill.
Ryan, E. G. & Co., 727 S. Dearborn St., Chicago, Ill.
Senefelder Co., 32 Greene St., New York, N. Y.
Unbekannt, C., 528 Palisade Ave., Weehawken, N. J.

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McKinley Litho Supply Co , 1620 John St., Cincinnati, O.
Mid-States Gummed Paper Co., 2433 S. Damen Ave., Chicago, Ill.
Senefelder Co., The, 32 Greene St., New York, N. Y.

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Rutherford Machinery Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.

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Atlas Electric Devices Co., 361 W. Superior St., Chicago, Ill.
Aurora School of Photo-Engraving, The, Aurora, Mo.
Lanston Monotype Machine Co., Twenty-fourth and Locust Sts., Philadelphia, Pa.....18
Levy, Max & Co., Wayne Ave. & Berkley St., Philadelphia, Pa.
Miles Machinery Co., 18 E. 16th St., New York, N. Y.
Polygraphic Co. of America, The, 310 E. 45th St., New York, N. Y.
Repro Art Machinery Co., Wayne Ave. & Berkley St., Philadelphia, Pa.
Robertson, R. R., 400 W. Madison St., Chicago, Ill.
Rutherford Machinery Co., Div. of General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.
Ryan, E. G., & Co., 727 S. Dearborn St., Chicago, Ill.
Sweigard Ideal Co., 6122 N. 21st St., Philadelphia, Pa.
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Clean-A-Press Machine Co., 821 Third St., Des Moines, Iowa.
Gegenheimer, William, Inc., 78-80 Roebling St., Brooklyn, N. Y.
Hollingsworth, William, Machine Co., 227 Holliday St., Baltimore, Md.
International Press Cleaner & Mfg. Co., 112 Hamilton Ave., Cleveland, O.
Ryan, E. G., & Co., 727 S. Dearborn St., Chicago, Ill.

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Irwin, H. G., Lumber Co., Erie, Pa.
Ostrander-Seymour Co., The, 1874 S. 54th Ave., Cicero Sta., Chicago, Ill.
Sandberger Mfg. Co., 1949 Fulton St., Chicago, Ill.
Setter Bros., Inc., Cattaraugus, N. Y.
Sheip, Henry H., Mfg. Co., Columbia Ave. & 6th St., Philadelphia, Pa.

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Aurora School of Photo-Engraving, The, Aurora, Mo.
Master Etching Machine Co., Inc., Drexel Bldg., Philadelphia, Pa.
Ostrander-Seymour Co., The, 1874 S. 54th Ave., Cicero Sta., Chicago, Ill.
Photoengravers Supply Co., 716 W. Indiana Ave., Philadelphia, Pa.

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Douthitt Corp., The, 650 W. Baltimore St., Detroit, Mich.—2E3.1, 2E3.3.
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Levy, Max and Co., Wayne Ave. and Berkley St., Philadelphia, Pa.—2E3.1.
Polygraphic Co. of America, The, 310 E. 45th St., New York, N. Y.—2E3.1, 2E3.4, 2E3.6.
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Dom, C. G., Supply Co., 125 E. Pearl St., Cincinnati, O.
Douthitt Corp., The, 650 W. Baltimore Ave., Detroit, Mich.
Haloid Co., The, Haloid St., Rochester, N. Y.
Mallinckrodt Chemical Co., 2nd & Mallinckrodt Sts., St. Louis, Mo.
Pitman, Harold M., Co., 51st Ave. & 33rd St., Chicago, Ill.
Polygraphic Co. of America, The, 310 E. 45th St., New York, N. Y.
Rogers Isinglass & Glue Co., 210 Eastern Ave., Gloucester, Mass.
Teaneck Chemical Co., Walnut St., Teaneck, N. J.
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Aurora School of Photo-Engraving, The, Aurora, Mo.
Holmstrom, Axel Etching Machines, Brown Bldg., 328 Chestnut St., Philadelphia, Pa.
Johnstone Electric Co., Inc., 538 S. Clark St., Chicago, Ill.
Master Etching Machine Co., Inc., Drexel Bldg., Philadelphia, Pa.
Ostrander-Seymour Co., The, 1874 S. 54th Ave., Cicero Sta., Chicago, Ill.
Photoengravers Supply Co., 716 W. Indiana Ave., Philadelphia, Pa.
Robertson, R. R., 400 W. Madison St., Chicago, Ill.

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Detroit Edge Tool Co., 433 Mt. Elliott Ave., Detroit Mich.
Ostrander-Seymour Co., The, 1874 S. 54th Ave., Cicero Sta., Chicago, Ill.

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Aurora School of Photo-Engraving, The, Aurora, Mo.
Gelb, Joseph, Co., 250 W. 54th St., New York, N. Y.
Macbeth Arc Lamp Co., 875 N. 28th St., Philadelphia, Pa.
Pease, The C. F., Co., 852 N. Franklin St., Chicago, Ill.
Polygraphic Co. of America, The, 310 E. 45th St., New York, N. Y.

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Ostrander-Seymour Co., The, 1874 S. 54th Ave., Cicero Sta., Chicago, Ill.

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Master Etching Machine Co., Drexel Bldg., Philadelphia, Pa.
Ostrander-Seymour Co., The, 1874 S. 54th Ave., Cicero Sta., Chicago, Ill.
Robertson, R. R., 400 W. Madison St., Chicago, Ill.

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RUSSELL PRODUCTS CO.

Manufacturers and Developers for the **Stereotype Industry**

POPULAR AND ACCEPTED ITEMS:

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FRANKLIN SPECIAL CORK MOLDING BLANKETS.
FRANKLIN WOOL MOLDING and DRYING FELTS.
WET AND DRY MATS.
ITTALIO CREAM STEREOTYPE TISSUE.
DIRECT PRESSURE (Hot or Cold) MOLDING BLANKETS.
DIRECT PRESSURE GRAY MOLDING and DRYING FELT PAPERS.

Research and Chemical Analysis.

RUSSELL PRODUCTS COMPANY
810 Sansom Street
PHILADELPHIA, PA.

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American Type Founders, 200 Elmora Ave., Elizabeth, N. J. 82-ABCD

Hammond Machinery Builders, Inc., 1604 Douglas Ave., Kalamazoo, Mich. 89

Hoe, R., & Co., Inc., 910 E. 138th St., New York, N. Y. 18-ABCD

Nolan Machinery Corp., 712 W. Liberty St., Rome, N. Y.
Northwest Type Foundry, 2101 Kennedy St., N. E., N. W. Terminal, Minneapolis, Minn.
Shaw Machine & Tool Co., 1151 Temple St., Los Angeles, Calif.

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American Type Founders, 200 Elmora Ave., Elizabeth, N. J. 82-ABCD

Hammond Machinery Builders, Inc., 1604 Douglas Ave., Kalamazoo, Mich. 89

Nolan Machinery Corp., 712 W. Liberty St., Rome, N. Y.
Northwest Type Foundry, 2101 Kennedy St., N. E., N. W. Terminal, Minneapolis, Minn.
Shaw Machine & Tool Co., 1151 Temple St., Los Angeles, Calif.
Stereotype Equipment Co., 3628 Lincoln Ave., Chicago, Ill.

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Milwaukee Saw Trimmer Corp., 612 E. Clybourn St., Milwaukee, Wis. 6

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Bausch & Lomb Optical Co., 685 St. Paul St., Rochester, N. Y.
Douthitt Corp., The, 650 W. Baltimore Ave., Detroit, Mich.
Levoy, B. M., Inc., 608 Fifth Ave., New York, N. Y.
Norman-Willetts Co., 318 W. Washington St., Chicago, Ill.
Ostrander-Seymour Co., The, 1874 S. 54th Ave., Cicero Sta., Chicago, Ill.
Zeiss, Carl, Inc., 485 Fifth Ave., New York, N. Y.

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Stereotype Equipment Co., 3628 Lincoln Ave., Chicago, Ill.

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MAT SHEARS
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Shaw Machine & Tool Co., 1151 Temple St., Los Angeles, Calif.

Stahi Newspaper Supply Co., 417 Oregonian Bldg., Portland, Ore. 4-5

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Belmont Smelting & Refining Works, Inc., 318 Belmont Ave., Brooklyn, N. Y.
Black Cross Metal Cleanser Co., 128 Moss Ave., Highland Park, Mich.

Blatchford, E. W., Co., 63 Park Row, New York, N. Y. 140-141

Division Lead Co., 836 W. Kinzie St., Chicago, Ill.
Empire Metal Co., Syracuse, N. Y.

Imperial Type Metal Co., New York, Philadelphia, Chicago, Los Angeles 67

Merchant & Evans Co., 2035 Washington Ave., Philadelphia, Pa.
Metals Refining Co., P. O. Box 1318, Hammond, Ind.
Pittsburgh White Metal Co., 3116 Penn Ave., Pittsburgh, Pa.—2G20.

United American Metals Corp., 200 Diamond St., Brooklyn, N. Y. 159

Valenti Metal Corp., 985 Grand St., Brooklyn, N. Y.
Wildes, Thomas & Son, Inc., 23-03 Borden Ave., Long Island City, N. Y.

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Fairbanks, Morse & Co., 900 S. Wabash Ave., Chicago, Ill.—2G21.1.

Hoe, R., & Co., Inc., 910 E. 138th St., New York, N. Y. 18-ABCD

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Stereotype Equipment Co., 3628 Lincoln Ave., Chicago, Ill.

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Practical Instrument Co., 2717 N. Ashland Ave., Chicago, Ill.
Russell Electric Co., 340 W. Huron St., Chicago, Ill.—2G22.2.
Struthers Dunn, Inc., 139 N. Juniper St., Philadelphia, Pa.
Tagliabue, C. J., Mfg. Co., Park & Nostrand Aves., Brooklyn, N. Y.—2G22.1.

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Carpenter-Tew Gear Co., 67—35th St., Brooklyn, N. Y.

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Elgin Bending Machine Co., 406 Center St., Elgin, Ill.

Hoe, R., & Co., Inc., 910 E. 138th St., New York, N. Y. 18-ABCD

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Atkins, E. C., & Co., 402 S. Illinois St., Indianapolis, Ind.—2H32.3.
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Hisey-Wolf Machine Co., The, Cor. Marshall & Colerain Aves., Cincinnati, O.
Marathon Electric Mfg. Corp., P. O. Box 440, Wausau, Wis.
Ostrander-Seymour Co., The, 1874 S. 54th Ave., Cicero Sta., Chicago, Ill.

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2G37.2 Plate.
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Nutting Truck Co., 3116 W. Division St., Faribault, Minn.
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Revolvator Co., State St. at Bergen Turnpike, North Bergen, N. J.—2G37.3.
Tucker-Dorsey Mfg. Corp., 302 S. State St., Indianapolis, Ind

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2H—Synthetic Resin-Like Plate Making Index

Key for Synthetic Resin-Like Index

2H1 DuPrene
2H2 Thiokol

Synthetic Resin-Like Supplies Index

2H1 DuPrene.
Du Pont, E. I., de Nemours Co., Wilmington, Del. DuPrene rollers and plate making materials may be obtained from other manufacturers and supply companies.

2H2 Thiokol.
Thiokol Corp., Yardville, N. J.

P-Double-E Filing System

3—Paper and Printing Stock Index

Key For Paper and Printing Stock Index

3A Binders Board
3B Blanks
3C Blotting
3D Bond and Ledger
3E Book
3F Bristol
3G Cellophane
3H Celluloid
3J Coated Board
3K Coated Paper
3L Cover
3M Gummed
3N Manila
3O Metallic or Foil
3P Newsprint
3Q Offset
3R Parchment
3S Postcard
3T Press Board
3U Rotogravure
3V Specialty
3W Stereotype
3X Tag
3Y Tympan

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Albemarle Paper Mfg. Co., The, Box 2189, Richmond, Va.—3C, 3L.
American Writing Paper Co., Holyoke, Mass.—3D, 3E, 3F, 3L, 3Q, 3R, 3V.

Beckett Paper Co., Hamilton, O.—3E, 3L, 3Q.
Brown Co., 404 Commercial St., Portland, Me.—3D, 3F, 3L, 3Q, 3X.
Bryant Paper Co., Kalamazoo, Mich.—3E, 3K, 3Q.

Celluloid Corp., 10 E. 40th St., New York, N. Y.—3G, 3V.
Champion Paper & Fibre Co., The, Hamilton, O.—3B, 3D, 3E, 3F, 3J, 3K, 3L, 3Q, 3S, 3T, 3X.
Collins, A. M. Mfg., Co., 226 Columbia Ave., Philadelphia, Pa.—3E, 3F, 3J, 3L, 3V.
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Kalamazoo Paper Co., Kalamazoo, Mich.—3E, 3V.
Kimberly-Clark Corp., Neenah, Wis.—3E, 3L, 3X, 3V.

Lee Paper Co., Vicksburg, Mich.—3D, 3E.
Lowe Paper Co., Ridgefield, N. J.—3B, 3J, 3V.

Maxwell Paper Co., The, Franklin, O.—3D, 3Q.
Mead, The G. H., Co., 11 W. Monument Ave., Dayton, O.—3P.
Mid-States Gummed Paper Co., 2433 S. Damen Ave., Chicago, Ill.—3M, 3V.
Miller Paper Co., 80 Wooster St., New York, N. Y.—3A, 3B, 3J, 3O.
Munising Paper Co., The, Munising, Mich.—3D, 3V.

Parsons Paper Co., Holyoke, Mass.—3D, 3E, 3R.
Patten Paper Co., Appleton, Wis.—3D, 3E, 3V.
Peninsular Paper Co., Ypsilanti, Mich.—3B, 3E, 3L, 3V.

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Warren, S. D. Co., 89 Broad St., Boston, Mass.—3E, 3K. 3Q, 3U.
Waterfalls Paper Mills, 21 E. 40th St., New York, N. Y.—3D, 3L, 3Q.
Weston, Byron Co., Dalton, Mass.—3D, 3F.
Whiting Paper Co., Holyoke, Mass.—3D, 3F, 3V.
Whiting-Plover Paper Co., Stevens Point, Wis.—3D, 3L, 3V.
Wrenn Paper Co., The, Middletown, O.—3C.
Wright Co., The, 444 Madison Ave., New York, N. Y. —3P.

P-Double-E Filing System

4—Paper Cutting and Processing Index

Key For Paper Cutting and Processing Index

Baling Presses
  See 8L Waste Paper Balers
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4A Deckling, Pebbling and Roughing Machines
  4A1 Deckling
  4A2 Pebbling
  4A3 Roughing
Die Cutting Presses
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4B Envelope Making Machines
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4C Paper Conditioning Equipment
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4D Paper Handling Trucks
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  4D3 Newsprint Roll
  4D4 Paper Stock
  4D5 Skids or Platforms
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4E Laminating Machines
4F Paper Cutters and Trimmers
  4F1 Automatic
  4F2 Cutting Sticks
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Lester & Wasley Co., The, 282 Franklin St., Norwich, Conn.

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KNIFE GRINDING MACHINES FOR PAPER CUTTERS
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KNIVES FOR PAPER CUTTERS
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LAMINATING MACHINES 4E
Krause, Karl, U. S. Corp., 55 Vandam St., New York, N. Y.....143

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P

PAGING AND NUMBERING MACHINES
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PAPER CONDITIONING EQUIPMENT 4C
Also see 8A Air Conditioning.

Acme Gear Co., 7th and Wood Sts., Philadelphia, Pa.
Advance Mfg. Co., Inc., 350 N. 26th St., Louisville, Ky.
McKinley Litho Supply Co., 1620 John St., Cincinnati, O.
Southworth Machine Co., 30 Warren Ave., Portland, Me.....153

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4D2 Lift.
4D3 Newsprint Roll.
4D4 Paper Stock.
4D5 Skids or Platforms.

Acme Printing Appliance Co., The, 331-333 South Clinton St., Chicago, Ill.—4D4, 4D5.
All Steel Welded Truck Corp., 1149 Railroad Ave., Rockford, Ill.—4D2, 4D5.
Anderson, C. F. & Co., 3225 Calumet Ave., Chicago, Ill.—4D4.
Cline Electric Mfg. Co., 211 West Wacker Drive, Chicago, Ill.—4D1, 4D2, 4D3, 4D4, 4D5.....12-13
Easton Car & Construction Co., P. O. Box 224, Easton, Pa.—4D1, 4D2.
Economy Engineering Co., 2653 W. Van Buren St., Chicago, Ill.—4D1, 4D4.....161
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Minnich Machine Works, Landisville, Pa.
Norman, William A., 180 N. Michigan Ave., Chicago, Ill.—4D3.
Nutting Truck Co., Faribault, Minn.—4D4.
Yale & Towne Mfg. Co., 4530 Tacony St., Philadelphia, Pa.—4D5.

PAPER CUTTERS AND TRIMMERS 4F
4F1 Automatic.
4F2 Cutting Sticks.
4F3 Hand.
4F4 Knives.
4F5 Knife Grinding
4F6 Power.

Acme Wood Type & Mfg. Co., 61 Beekman St., New York, N. Y.—4F2.
American Type Founders, 200 Elmora Ave., Elizabeth, N. J.—4F1, 4F3, 4F6.....82-ABCD
Atkins, E. C. & Co., 402 S. Illinois St., Indianapolis, Ind.—4F4.
Boston Saw and Knife Co., 102 Pearl St., Boston, Mass.—4F2, 4F4, 4F6.
Brackett Stripping Machine Co., 505 Jackson St., Topeka, Kan.—4F1.
Challenge Machinery Co., Grand Haven, Mich.—4F3, 4F4.....61
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Detroit Edge Tool Co., 433 Mt. Elliott Ave., Detroit, Mich.—4F4.
Dexter Folder Co., 28 23rd St., New York, N. Y.—4F1.
Disston, Henry & Sons, Inc., Tacony, Philadelphia, Pa.—4F4.
Doepel, J. E., Co., 623 Cherry St., Philadelphia, Pa.—4F1.
Ever Ready Machinists, Inc., 137 W. 19th St., New York, N. Y.—4F2, 4F3.
Fate-Root-Heath Co., The, Plymouth, O.—4F5.
Fuller, E. C., Co., 28 Reade St., New York, N. Y.—4F1, 4F6.
Hamilton Mfg. Co., Two Rivers, Wis.—4F2.
Harris Seybold Potter Co., 4510 E. 71st St., Cleveland, O.—4F1, 4F6.....26-27
Hickok W. O., Mfg. Co., Harrisburg, Pa.—4F5.
Irwin, H. G. Lumber Co., Erie, Pa.—4F2.

SIMONDS WORDEN WHITE CO.
OFFICE
DAYTON, OHIO
SWWCo
SWWCo
Factories at DAYTON - BUFFALO - CLEVELAND - BELOIT

Leading manufacturers of Paper Cutter Knives continuously since 1837

A high standard quality knife insures your getting full value out of your trimmer. Our quality knives are not higher priced. Write us, sending sketch of pattern showing dimensions, together with name of Cutter. We will gladly quote you prices, delivery, etc., and also help you select quality and type of knife best suited to your operating requirements.

Jones, James H. Corp., 430 S. Green St., Chicago, Ill.—4F3, 4F6.
Jorson & Carlson Co., Inc., 707 S. Dearborn St., Chicago, Ill.—4F1, 4F2.
Kellett Co., The, 545 S. Dearborn St., Chicago, Ill.—4F2, 4F4, 4F5.
Krause, Karl, U. S. Corp., 55 Vandam St., New York, N. Y.—4F1, 4F4, 4F6 143
Loyd, John Co., 87 Walker St., New York, N. Y.—4F4, 4F5.
Martin Machinery Corp., 50 Church St., New York, N. Y.—4F.
McLauthlin, Geo. T., Co., 120 Fulton St., Boston, Mass.—4F1, 4F3, 4F6.
Morgans & Wilcox Mfg. Co., Middletown, N. Y.—4F.
Ohio Knife Co., The, B. & O. Ry. and Dreman Ave., Cincinnati, O.—4F4.
Parry, S. R. Machine Co., 222 Mill St., Rochester, N. Y.
Pavyer Printing Machine Works, 600 S. Broadway, St. Louis, Mo.—4F3.
Rogers, Samuel C., & Co., Inc., 191 Dutton Ave., Buffalo, N. Y.—4F5 144
Sandberg Mfg. Co., 1949 Fulton St., Chicago, Ill.—4F2.
Schroeter, J. H. & Bro., Inc., 223 Central Ave., S. W., Atlanta, Ga., 4F2, 4F3.
Seybold Machine Co., Div. Harris Seybold Potter Co., 813 Washington St., Dayton, O.—4F1, 4F2, 4F4, 4F5, 4F6.
Sharp Tool Service Co., 5401 W. Lake St., Chicago, Ill.—4F5.
Sheridan, T. W. & C. B. Co., 129 Lafayette St., New York, N. Y.
Simonds Saw & Steel Co., 470 Main St., Fitchburg, Mass.—4F4.
Simonds Worden White Co., Dayton, O.—4F4 114
Simonds Worden White Co., R. J. Dowd Knife Works Div., Beloit, Wis.—4F4.
Smith & Winchester Mfg. Co., The, South Windham, Conn.—4F3, 4F6.
Smyth Mfg. Co., The, 9 Sigourney St., Hartford, Conn.—4F1.
Tesch Mfg. Co., 2700 S. 19th St., Milwaukee, Wis.—4F5.
Wapakoneta Machine Co., The Wapakoneta, O.—4F4.

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Arabol Mfg. Co., The, 110 E. 42nd St., New York, N. Y.
Bingham Brothers Co., 406 Pearl St., New York, N. Y.—5A1, 5A2.
Buckeye Paste Co., 270 S. Wall St., Columbus, O.—5A1.
Findley, The F. G., Co., 1243 N. 10th St., Milwaukee, Wis.—4A1, 5A2.
Hart, William C., Co., 139 Greene St., New York, N. Y.—5A2.
Hoyt, Arthur S., Co., Inc., 175 Fifth Ave., New York, N. Y.
Lox Mfg. Co., Merriam, Kan.
Maigne, O. J., Co., 356 Pearl St., New York, N. Y.—5A1, 5A2, 5A3
National Adhesives Corp., 820 Greenwich St., New York, N. Y.—5A1, 5A2.
Osgood-Globe Corp., 33 Purchase St., Boston, Mass.—5A1.
Union Rubber & Asbestos Co., Trenton, N. J.
Williamson Glue & Gum Works, 2327 W. 18th St., Chicago, Ill.

ACCESSORIES FOR FOUNTAINS
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AGITATORS FOR FOUNTAINS
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AGITATORS, INK 5B

Ortleb Machinery Co., 3818 Laclede St., St. Louis, Mo.

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Bound Brook Oil-less Bearing Co., Bound Brook, N. J.
Knowlton, M. D., Co., 28 Industrial St., Rochester, N. Y.
Norma-Hoffmann Bearings Corp., Stamford, Conn. 16-17
SKF Industries, Inc., Front St. and Erie Ave., Philadelphia, Pa. 83
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Clipper Belt Lacer Co., 974 Front Ave., N. W., Grand Rapids, Mich.
Gilmer, L. H., Co., Tacony, Philadelphia, Pa.
Manhattan Rubber Mfg. Div. of Raybestos-Manhattan, Inc., 61 Willet St., Passaic, N. J.
Reliable Printing Equipment Co., The, 357 Bangor Bldg., Cleveland, O.
Rhoads, J. E. & Sons, 35 N. Sixth St., Philadelphia, Pa.

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Barma Sales Agency, 530 Atlantic Ave., Boston, Mass.
Christensen Machine Co., The, 100 Fourth St., Racine, Wis. 71
Columbia Printing Machinery Corp., 2 Lafayette St., New York, N. Y.
Henschel, C. B. Mfg. Co., 229 W. Mineral St., Milwaukee, Wis.
U. P. M.-Kidder Press Co., Inc., Dover, N. H.

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Berger Mfg. Co., 1038 Belden Ave., Canton, O.—5G3, 5G7.
Challenge Machinery Co., Grand Haven, Mich.—5G3, 5G7 61
Globe-Wernicke Co., The, Ross and Carthage Ave., Cincinnati, O.
Hamilton Mfg. Co., Two Rivers, Wis.—5G1, 5G2, 5G3, 5G4, 5G6, 5G7.
Kienzle & Merrick Mfg. Co., The, 1214 S. 3rd St., Minneapolis, Minn.—5G5.
Make-Ready Sales Co., Wellesley, Mass.—5G4.
McKinley Litho Supply Co., 1620 John St., Cincinnati, O.—5G5.
Redington, F. B., Co., 112-114 S. Sangamon St., Chicago, Ill.—5G6.
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Toledo Metal Furniture Co., The, 1100 Hastings St., Toledo, O

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CHUCKS (NON-RETURNABLE CORE) 5H

Economy Chucks, Inc., 203 So. Dearborn St., Chicago, Ill.

CIRCULAR LETTER FOLDERS
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CLEANING FLUID SAFETY CANS
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CONVEYORS FOR MAGAZINES AND NEWSPAPERS 5J

Cutler-Hammer, Inc., N. 12th St. and W. St. Paul Ave., St. Paul, Minn.
Yale & Towne Mfg. Co., 4530 Tacony St., Philadelphia, Pa.

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American Felt Co., 315 Fourth Ave., New York, N. Y.—5L1.

American Publishers Supply, P. O. Box 131, West Lynn, Mass.—5L1, 5L4 32-33

Best, Edward H. & Co., 222 Purchase St., Boston, Mass.—5L1.
Carborundum Co., The, Niagara Falls, N. Y.—5L2.
Carmichael Blanket Co., 1151 Oxford Road, N. E., Atlanta, Ga.—5L1.

Corkpak Co., The, 250 E. 43rd St., New York, N. Y.—5L1, 5L2, 5L3, 5L4 157

Cromwell Paper Co., The, 4801 S. Whipple St., Chicago, Ill.—5L2, 5L3 159

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Duplex Printing Press Co., Battle Creek, Mich.—5L1, 5L3 8

FitzPatrick Felt Mfg. Co., 1971 E. 79th St., Cleveland, O.—5L1 117

House, Chas. W. & Sons, Inc., 505 Fifth Ave., New York, N. Y.—5L1.

New England Newspaper Supply Co., 164 Fremont St., Worcester, Mass.—5L1, 5L2, 5L3, 5L4 Inside back cover

Newspaper Publishers Supply Co., 1639 N. Lorel Ave., Chicago, Ill.—5L1, 5L2, 5L3, 5L4 153

Rapid Roller Co., 2558 S. Federal St., Chicago, Ill.—5L2.

Riegel Paper Corp., 342 Madison Ave., New York, N. Y.—5L2, 5L3 157

Scott, Walter & Co., Plainfield, N. J.—5L1, 5L2, 5L3, 5L4 87

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Stahl Newspaper Supply Co., 417 Oregonian Bldg., Portland, Ore.—5L1, 5L3 4-5

Tingue, Brown & Co., 118 E. 25th St., New York, N. Y.—5L1, 5L2, 5L3, 5L4 159

Triplet Gauge Div. of Deleet Trading Corp., 1 Dover St., New York, N. Y.—5L3.

Vulcan Proofing Co., 1st Ave. and 58th St., Brooklyn, N. Y.—5L1, 5L2, 5L3, 5L4 25

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Brandtjen & Kluge, Inc., 653-663 Gaultier St., St. Paul, Minn. 57

Fort Stanwix Mfg. Co., Inc., Rome, N. Y.

Harris Seybold Potter Co., 4510 E. 71st St., Cleveland, O. 26-27

Hobbs Mfg. Co., 26 Salisbury St., Worcester, Mass.
Hollingsworth, William, Machine Co., 227 Holliday St., Baltimore, Md.
Jacques, John & Son, 93 Webster St., Worcester, Mass.

Krause, Karl, U. S. Corp., 55 Vandam St., New York, N. Y. 143

Logemann Brothers Co., 3154 W. Burleigh St., Milwaukee, Wis.
Loyd, John Co., 87 Walker St., New York, N. Y.
Loyster, James A., Cazenovia, N. Y.
Robinson, John T., Co., Hyde Park, Mass.

Scott, Walter & Co., Plainfield, N. J. 87

Seybold Machine Co., Div. Harris Seybold Potter Co., 813 Washington St., Dayton, O.
Smith & Winchester Mfg. Co., The, South Windham, Conn.

DIVIDERS FOR FOUNTAINS
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DRAW SHEETS
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ELECTRIC NEUTRALIZERS
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ELIMINATORS, STATIC
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EMBOSSING PRESSES AND EQUIPMENT 5N

American Type Founders, 200 Elmora Ave., Elizabeth, N. J. 82-ABCD

Harris Seybold Potter Co., 4510 E. 71st St., Cleveland, O. 26-27

Krause, Karl U. S. Corp., 55 Vandam St., New York, N. Y. 143

Roovers Bros., Inc., Flatbush Industrial Bldg., 3611 14th Ave., Brooklyn, N. Y.
Seybold Machine Co., Div. Harris Seybold Potter Co., 813 Washington St., Dayton, O.
Thomson-National Press Co., Franklin, Mass.

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American Type Founders, 200 Elmora Ave., Elizabeth, N. J. 82-ABCD

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Wagner Electric Corp., 6400 Plymouth Ave., St. Louis, Mo.

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5Q4 Fanfolding Machines.
5Q5 Folding Machines.
5Q6 Job Press Feeders.
5Q7 Magazine Folders.
5Q8 Newspaper Folders.
5Q9 Roll Leaf Feeders.
5Q10 Roll Paper Feeders.
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Anderson, C. F., & Co., 3225 Calumet Ave., Chicago, Ill.—5Q5.
Barkley Associates, 176 Federal St., Boston, Mass.—5Q3, 5Q11.
Baum, Russell Edward, 615 Chestnut St., Philadelphia, Pa.—5Q5.
Beall, Jack, Vertical Service, 705 S. Dearborn St., Chicago, Ill.—5Q.

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Brown Folding Machine Co., 301 E. 18th St., Erie, Pa.—5Q5.
Chambers Bros. Co., 52nd & Media Sts., Philadelphia, Pa.—5Q3, 5Q5.

Christensen Machine Co., The, 100 Fourth St., Racine, Wis.—5Q3, 5Q5 71

Dexter Folder Co., 28 W. 23rd St., New York, N. Y.—5Q1, 5Q2, 5Q3, 5Q4, 5Q5, 5Q6, 5Q7, 5Q8, 5Q11.

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Ever Ready Machinists, Inc., 137 W. 19th St., New York, N. Y.
Hickok, W. O., Mfg. Co., Harrisburg, Pa.—5Q5.
Hoerth, A. J., & Co., 608 S. Dearborn St., Chicago, Ill.
Hollingsworth, William, Machine Co., 227 Holliday St., Baltimore, Md.—5Q1.
Kohler Bros., 1072 Wrigley Bldg., Chicago, Ill.—5Q7, 5Q11.
Liberty Folder Co., Sidney, O.—5Q3, 5Q5.
Maxson Automatic Machinery Co., Westerly, R. I.—Delivery for high-speed presses, cutting and ruling machines.
Mentges Folder Co., Sidney, O.—5Q8.
Omaha Folding Machine Co., 2009 Cuming St., Omaha, Neb.—5Q2, 5Q5, 5Q8.
Stolp-Gore Co., 710 W. Jackson Blvd., Chicago, Ill.—5Q3 5Q5, 5Q11.
Verrinder, E. A., 827 Alvarado St., Redlands, Calif.—5Q6.

FILE FOLDER PRINTING PRESSES
See under 5LL Printing Presses.

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Cline Electric Mfg. Co., 211 W. Wacker Dr., Chicago, Ill. 12-13

Kohler Bros., 1072 Wrigley Bldg., Chicago, Ill.

Wood Newspaper Machinery Corp., 501 Fifth Ave., New York, N. Y. 21

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5S2 Dividers.
5S3 Fountains.
5S4 Knives.
5S5 Newspaper Color (Portable)
5S6 Vibrators.

Acme Printing Appliance Co., The, 331-333 S. Clinton St., Chicago, Ill.—5S2, 5S6, 5S7.

American Type Founders, 200 Elmora Ave., Elizabeth, N. J.—5S1, 5S2, 5S4, 5S6, 5S7 ..... 82-ABCD

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Graphic Arts Accessories, 308 Marquette Bldg., Detroit, Mich.

Hoe, R., & Co., Inc., 910 E. 138th St., New York, N. Y. —5S5 ..... 18-ABCD

Morgan Expansion Roller Truck Co., 1651 Cosmos St. P. O. Box 216, Hollywood, Calif.—5S7.
Ortleb Mchy. Co., 3818 Laclede St., St. Louis, Mo.—5S1.
Page, Robert R., 225 E. 24th St., New York, N. Y.—5S2.
Russell Supply Co., Inc., 47 West St., New York, N. Y.
Welsh, C. L., Route 3, Pleasantville, N. J.

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GAS SHEET HEATERS
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American Type Founders, 200 Elmora Ave., Elizabeth, N. J. 82-ABCD

Automatic Register Guide Co., 3609 Fifth Ave., N., Birmingham, Ala. 161

Casper Gripper Co., The, 357 Bangor Bldg., Cleveland, O.
Clark, E. C., 250 Nicollet Ave., Minneapolis, Minn.
Dixon, J. G., 333 S. Clinton St., Chicago, Ill.

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Grove, Jacob R., Co., 3708 Fulton St., N. W., Washington D. C.

Megill, The Edward L., Co., 761 Atlantic Ave., Brooklyn, N. Y. 160

Morgan Expansion Roller Truck Co., 1651 Cosmos St., P. O. Box 216, Hollywood, Calif.
Stiles, Charles L., 64 Hanford St., Columbus, O.
Strait, H. H., 9510 Milton Ave., St. Louis, Mo.
Welsh, C. L., Route 3, Pleasantville, N. J.
Western Roller & Mfg. Co., 1716 Arapahoe St., Denver, Colo.

GAUGES AND TESTING INSTRUMENTS 5U
5U1 Durometers.
5U2 Paper.
5U3 Paper Strength and Thickness Gauges and Paper Sheet Scales.
5U4 Plate.
5U5 Roller Setting.
5U6 Scleroscope.
5U7 Stroboscope.
5U8 Tachometers.
5U9 Type High.

Amthor Testing Instrument Co., Inc., 317 Johnson St., Brooklyn, N. Y.
Atlas Electric Devices Co., 361 W. Superior St., Chicago, Ill.

Black Rock Mfg. Co., Bridgeport, Conn.—5U5 146

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Consolidated Ashcroft Hancock Co., Inc., 11 Elias St., Bridgeport, Conn.
Craftsman Line-up Table Corp., 49-59 River St., Waltham, Mass.

Dust-Less Equipment Co., 4021 19th St., N.E., Washington, D. C. 137

Hacker Mfg. Co., 320 S. Honore St., Chicago, Ill.—5U3, 5U4, 5U9, 5U10.
Kemper Robert E., North Chatham, N. Y.
La Motte Chemical Products Co., McCormick Bldg., Baltimore, Md.
Memler, Eugene, P. O. Box 697, Arcade Annex, Los Angeles, Calif.—5U5.
Perkins, B. F., & Son, Inc., Holyoke, Mass.—5U2.

Pioneer Mfg. Co., 1212 Jackson St., Toledo, O. 159

Riebe Quoin Co., The, 122 N. Lamon Ave., Chicago, Ill. —5U9.
Starrett, The L. S, Co., Athol, Mass.—5U2.
Testing Machines. Inc., 460 W. 34th St., New York, N. Y. —5U2, 5U3.
Toledo Scale C., Toledo, O.—5U2.
Triplet Gauge Co., Div. of Deleet, Trading Corp., The, 1 Dover St., New York, N. Y.—5U.
Weston Elec'l Inst. Corp., 614 Frelinghuysen Ave., Newark, N. J.—5U8.

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Acme Printing Appliance Co., The, 331 S. Clinton St., Chicago, Ill.—5V1.

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Hoy, Frank C., 139 E. Third St., Cincinnati, O.—5V1.
Simcoe Mfg. Co., P. O. Box 5187, Logan, Philadelphia, Pa.
Static Eliminator Co., 239 Centre St., New York, N. Y.—5V1, 5V2.
Steel, B. W., 411 E. Pico St., Los Angeles, Calif.—5V1.
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Day, The J. H., Co., 1144 Harrison Ave., Cincinnati, O.
Excello Machine Co., 412 Umatalla St., Grand Rapids, Mich.
Kent Machine Works, Inc., 37 Gold St., Brooklyn, N. Y.
Lehmann, J. M., Co., Inc., 248 W. Broadway, New York, N. Y.
Read Machinery Co., Inc., York, Pa.
Ross, Charles, & Son Co., 148 Classon Ave., Brooklyn, N. Y.

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5W8 Offset-Lithographic.
5W9 Plate Printing.
5W10 Reducers.
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Acheson Ink Co., The, 142 Skillen St., Buffalo, N. Y.—5W2, 5W6, 5W8.
Acme Printing Ink Co., 1315 W. Congress St., Chicago, Ill. —5W6, 5W8, 5W10, 5W13.
American Printing Ink Co., Div. General Printing Ink Corp., 2314-2324 W. Kinzie St., Chicago, Ill.—5W2, 5W5, 5W6, 5W8, 5W13.
Auld Hampton, Inc., 104-106 Verona Ave., Newark, N. J. —5W2, 5W6, 5W8, 5W10, 5W11, 5W13.
Baer Bros., 438 W. 37th St., New York, N. Y.—5W1, 5W13.
Binney & Smith Co., 41 E. 42nd St., New York, N. Y.—5W3.

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Consolidated Printing Ink Co., 431 N. Griggs St., St. Paul, Minn.—5W6, 5W8, 5W11.
Crescent Ink & Color Co. of Pa., 464 N. Fifth St., Philadelphia, Pa.—5W2, 5W6, 5W8, 5W11, 5W13.

Doyle, The J. E., Co., 310 Lakeside Ave., N.W., Cleveland, O.—5W2, 5W7, 5W10 161

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General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.—Inks for All Processes.

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Johnson-King Co., 709 W. 49th Place, Chicago, Ill.—5W2, 5W6, 5W8, 5W9, 5W10, 5W13.
Kelly, E. J., Co., 521 Harrison Ct., Kalamazoo, Mich.—5W2, 5W6, 5W8, 5W13.
Kemp, W. H., Co., 350 Hudson St., New York, N. Y.—5W1.
Kohl & Madden Printing Ink Co., 731 Plymouth Court, Chicago, Ill —5W1, 5W2, 5W6, 5W7, 5W8,

Levey, Fred'k H., Co., Inc., 59 Beekman St., New York, N. Y.—5W1, 5W2, 5W6, 5W7, 5W8, 5W9, 5W10, 5W11, 5W12, 5W13, 5W14 29

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Roosen, H. D., Co., Foot of 20th & 21st Sts., Brooklyn, N. Y.—5W1, 5W2, 5W3, 5W5, 5W6, 5W7, 5W8, 5W10, 5W11, 5W13.
Siebold, J. H. & G. B., Inc., 47 Watts St., New York, N. Y. —5W2, 5W6, 5W7, 5W8, 5W13, 5W14.
Sigmund Ullman Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.—5W2, 5W6, 5W8, 5W13.
Sinclair & Valentine Co., 11 St. Clair Pl., New York, N. Y. —5W1, 5W2, 5W3, 5W4, 5W5, 5W6, 5W7, 5W8, 5W10, 5W11, 5W12, 5W13, 5W14.
Sleight Metallic Ink Co. of Penna., Inc., 538 N. 3rd St. Philadelphia, Pa.—5W1, 5W4, 5W6, 5W7, 5W8, 5W9, 5W13.
Standard Printing Ink Co., The, Div. International Printing Ink Corp., 1644 Providence St., Cincinnati, O.—5W2, 5W6, 5W8, 5W13.
Stevens, Frank H., Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.—5W2, 5W6, 5W8, 5W13.

Stokes, The A., Co., Hudson, O.—5W6, 5W14.
Superior Printing Ink Co., Inc., 295 Lafayette St., New York, N. Y.—5W2, 5W6, 5W7, 5W8, 5W11,
Talbert Mfg. Co., 400½ Broadway, Kansas City, Mo.—5W7.
Triangle Ink & Color Co., 26 Front St., Brooklyn, N. Y.—5W1, 5W2, 5W5, 5W6, 5W7, 5W8, 5W9, 5W10, 5W11, 5W12, 5W13, 5W14.
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Hallanger Oiler Sales, Div. of Davis Tool & Engineering Co., 6481 Epworth Blvd., Detroit, Mich.
Justrite Mfg. Co., 2061 Southport Ave., Chicago, Ill.
Manzel Bros. Co., 315 Babcock St., Buffalo, N. Y.

Rivett Lathe & Grinder, Inc., 20 Riverview Rd., Brighton, Mass. 23

Stewart-Warner Corp., Alemite Div., 1826 Diversey Parkway, Chicago, Ill.

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Bache, Semon, & Co., 636 Greenwich St., New York, N. Y.
Bausch & Lomb Optical Co., 685 St. Paul St., Rochester, N. Y.
Douthitt Corp., The., 650 W. Baltimore Ave., Detroit, Mich.
Levoy, B. M., Inc., 608 Fifth Ave., New York, N. Y.
Norman-Willets Co., 318 W. Washington St., Chicago, Ill.
Page, Robert R., 225 W. 24th St., New York, N. Y.
Zeiss, Carl, Inc., 485 Fifth Ave., New York, N. Y.

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Century Electric Co., 1806 Pine St., St. Louis, Mo.

Cline Electric Mfg. Co., 211 W. Wacker Drive, Chicago, Ill. 12-13

Cutler-Hammer, Inc., N. 12th St. and W. St. Paul Ave., Milwaukee, Wis.

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General Electric Co., 1 River Rd., Schenectady, N. Y. 64-65

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Monitor Controller Co., 51 S. Gay St., Baltimore, Md.
Northwestern Electric Co., 408 S. Hoyne Ave., Chicago, Ill.
Oilgear Co., 1301 W. Bruce St., Milwaukee, Wis.
Reliance Electric & Engineering Co., Ivanhoe Rd., Cleveland, O.
Square D Co., Industrial Controller Div., 710 S. Third St., Milwaukee, Wis.

U. S. Electrical Motors, Inc., 200 E. Slauson Ave., Los Angeles, Calif. 24

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American Type Founders, 200 Elmora Ave., Elizabeth, N. J. 82-ABCD

Cleanprint, Inc., 225 Varick St., New York, N. Y.
DeVilbiss Co., The, 300 Phillips Ave., Toledo, O.
General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.
Indiana Chemical & Mfg. Co., 517 S. Alabama St., Indianapolis, Ind.
No-Off-Set Co., 1420 Hepburn Ave., Louisville, Ky.
Offen, B., & Co., 608 S. Dearborn St., Chicago, Ill.
Paasche Airbrush Co., 1909 Diversey Parkway, Chicago, Ill.

Pabich, W. R., 2855 N. Rockwell St., Chicago, Ill. 161

Utility Heater Co., 239 Centre St., New York, N. Y.
Vapo Systems, 111 W. Washington St., Chicago, Ill.

Western Brush Co., 175 W. Lake St., Chicago, Ill. 152

Wickwire Spencer Steel Co., 41 E. 42nd St., New York, N. Y.

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Collins, A. M., Mfg. Co., 226 Columbia Ave., Philadelphia, Pa.
Duro Overlay Process, 2530 N. 69th St., Wauwatosa, Wis.
Graphic Arts Laboratories, 201 N. Wells St., Chicago, Ill.
Sterling Chemical Co., 461 E. 62nd St., Chicago, Ill.
Walker-Cameo Overlay Corp., 1374 Massachusetts Ave., Cambridge, Mass.

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Goss Printing Press Co., The, 1535 S. Paulina St., Chicago, Ill. ..... Inside front cover-Page 3

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PERFORATING, SLITTING AND SCORING ATTACHMENTS 5FF

Davidson Perforator Corp., 7157—68th Place, Glendale, Brooklyn, N. Y.
Hoff, Leslie D., 52 N. Arlington Ave., East Orange, N. J.

Krause, Karl, U. S. Corp., 55 Vandam St., New York, N. Y. 143

Morgan Expansion Roller Truck Co., 1651 Cosmos St., P. O. Box 216, Hollywood, Calif.
Myover-Stryker & Co., Fredonia, Kan.
Steel, B. W., 411 E. Pico St., Los Angeles, Calif.

PLANOGRAPHIC INKS
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PLATE GAUGES
See under 5U Gauges and Testing Instruments.

PLATE MOUNTING SYSTEMS
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PLATE PRINTING INKS
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PLATE TRUCKS
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PLATEN PRINTING PRESSES
See under 5LL Printing Presses.

PORTABLE CLEANING BLOWERS
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PORTABLE COLOR FOUNTAINS, NEWSPAPER
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POWDERS FOR RAISED LETTER PRINTING
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POWDERS, BRONZE
See under 5W Inks.

POWDERS FOR BRONZING
See 5W Inks.

PRESS BLANKETS
See under 5L Cylinder and Tympan Packing.

PRESS BRAKES
See 5E Brakes for Presses.

PRESS COUNTERS 5EH

Durant Mfg. Co., 1925 N. Buffum St., Milwaukee, Wis.
Redington, F. B., Co., 112 S. Sangamon St., Chicago, Ill.
Veeder-Root, Inc., 25 Sargeant St., Hartford, Conn.

PRESS LUBRICATING EQUIPMENT AND SUPPLIES
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PRESS SPEED INDICATORS
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PRESS TRANSMISSIONS
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PRESSES FOR EMBOSSING
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PRINTING PRESS MOTORS
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PRINTING PRESSES 5LL
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5LL 2 Bag.
5LL 3 Bank Note.
5LL 4 Bottle Cap.
5LL 5 Card.
5LL 6 Carton.
5LL 7 Color.
5LL 8 Check.
5LL 9 Cylinder.
5LL10 Envelope.
5LL11 Envelope Blank.
5LL12 Fanfold.
5LL13 File Folder.
5LL14 File Form.
5LL15 Flat Bed.
5LL16 Form Letter.
5LL17 Fruit Stamping.
5LL18 Gravure.
5LL19 Hand.
5LL20 Index Card.
5LL21 Job.
5LL22 Label.
5LL23 Lithographic.
5LL24 Magazine.
5LL25 Newspaper.
5LL26 Offset.
5LL27 Pencil.
5LL28 Platen.
5LL29 Register Form.
5LL30 Roll Feed.
5LL31 Roll Form.
5LL32 Rotary.
5LL33 Rotogravure.
5LL34 Sales Book.
5LL35 Sheet Feed.
5LL36 Specialty.
5LL37 Tag.
5LL38 Tape.
5LL39 Ticket.
5LL40 Tin.
5LL41 Vertical.
5LL42 Web.
5LL43 Wrapper.

American Type Founders, 200 Elmora Ave., Elizabeth, N. J.—5LL1, 5LL9, 5LL19, 5LL21.....82-ABCD

Babcock Printing Press Mfg. Co., The, 38 Park Row, New York, N. Y.—5LL1, 5LL9, 5LL15, 5LL32.

Brandtjen & Kluge, Inc., 653-663 Gaultier St., St. Paul, Minn.—5LL1, 5LL28.....57

Challenge Machinery Co., Grand Haven, Mich.—5LL9.888

Chambon Corp., 911 New York Ave., Union City, N. J.

Chandler & Price Co., 6000 Carnegie Ave., Cleveland, O.—5LL1, 5LL9, 5LL21, 5LL35.....85

Claybourn Corp., 3713 N. Humboldt Ave., Milwaukee, Wis.—5LL1, 5LL5, 5LL6, 5LL7, 5LL22, 5LL24, 5LL32, 5LL36, 5LL43.
Columbia Printing Machinery Corp., 2 Lafayette St., New York, N. Y.—5LL1, 5LL22.

Cottrell, C. B., & Sons Co., P. O. Drawer 515, Westerly, R. I.—5LL2, 5LL32, 5LL35, 5LL42.....53

Craftsmen Machinery Co., 307 Atlantic Ave., Boston, Mass.—5LL19, 5LL21.....145

Dilkes, C. E., Co., 6 Dawson St., Newark, N. J.—5LL5.

Duplex Printing Press Co., Battle Creek, Mich.....8

Fort Stanwix Mfg. Co., Inc., Rome, N. Y.—5LL4, 5LL36.
General Printing Machinery Corp., 29 Ryerson St., Brooklyn, N. Y.—5LL18.

Goss Printing Press Co., The, 1535 S. Paulina St., Chicago, Ill.—5LL7, 5LL15, 5LL24, 5LL25, 5LL33 .....Inside front cover-Page 3

Gowdy Mfg. Co., Inc., 45 N. Division St., Buffalo, N. Y.—5LL10.
Hacker Mfg. Co., 320 S. Honore St., Chicago, Ill.—5LL9

Hamilton Tool Co., The, 220-222 N. "B" St., Hamilton, O.—5LL36.....151-158

Harris Seybold Potter Co., 4510 E. 71st St., Cleveland, O.—5LL10, 5LL15, 5LL18, 5LL26, 5LL32.....26-27

Heidelberg Printing Machinery Corp., 228 E. 45th St., New York, N. Y.—5LL21, 5LL28.....135

Heinrich, H. H., Inc., 200 Varick St., New York, N. Y.—5LL1, 5LL2, 5LL18, 5LL30, 5LL32.
Henschel, C. B., Mfg. Co., 229 W. Mineral St., Milwaukee, Wis.—5LL30, 5LL32, 5LL36.

Hoe, R., & Co., Inc., 910 E. 138th St., New York, N. Y. —5LL3, 5LL7, 5LL18, 5LL24, 5LL25, 5LL26, 5LL32 .....18-ABCD

Hooper, F. X., Co., Inc., Glenarm, Md.—5LL1, 5LL6, 5LL26, 5LL36, 5LL40, 5LL42.
Hudson-Sharp Machine Co., Green Bay, Wis.—5LL1, 5LL2, 5LL10, 5LL30, 5LL32, 5LL36, 5LL43.
Hughes Machine Co., 44 Beauvoir Ave., Summit, N. J.—5LL3.
International Paper Box Machine Co., Nashua, N. H.—5LL6, 5LL26.
Kelsey Press Co., The, Meriden, Conn.—5LL19.
Kienzle & Merrick Mfg. Co., The, 1214 S. 3rd St., Minneapolis, Minn.—5LL1, 5LL9, 5LL19.

Krause, Karl, U. S. Corp., 55 Vandam St., New York, N. Y.—5LL12, 5LL22, 5LL30, 5LL32, 5LL34.....143

Loyster, James A., Cazenovia, N. Y.—5LL4, 5LL5, 5LL7, 5LL36, 5LL39.

Meisel Press Mfg. Co., 942 Dorchester Ave., Boston, Mass.—5LL2, 5LL7, 5LL13, 5LL20, 5LL24, 5LL32, 5LL36, 5LL39, 5LL43.....149

Miehle Printing Press & Mfg. Co., 14th St. & S. Damen Ave., Chicago, Ill.—5LL1, 5LL6, 5LL7, 5LL9, 5LL10 5LL15, 5LL16, 5LL21, 5LL22, 5LL24, 5LL25, 5LL26, 5LL34, 5LL35, 5LL36, 5LL41.....31

Miller Printing Machinery Co., 1101-1131 Reedsdale St., Pittsburgh, Pa.—5LL1, 5LL9, 5LL28.....9

Murphy, George, Inc., 57 E. Ninth St., New York, N. Y.—5LL18.
Nagel-Ryan Co., Inc., 4363 Woodward Ave., Royal Oak, Mich.—5LL2, 5LL32, 5LL36.
New Era Mfg. Co., The, 375 Eleventh Ave., Paterson, N. J.—5LL1, 5LL5, 5LL7, 5LL8, 5LL15, 5LL20, 5LL21, 5LL22, 5LL23, 5LL26, 5LL28, 5LL30, 5LL34, 5LL36, 5LL37, 5LL38, 5LL39, 5LL42, 5LL43.
Pine-Ihrig Machine Co., 36 Marion St., Oshkosh, Wis.—5LL1, 5LL5, 5LL7, 5LL30, 5LL42.
Pleger, John J., Co., 609 W. Lake St., Chicago, Ill.—5LL39.
Post Mfg. Works, 671 Diversey Parkway, Chicago, Ill.—5LL10.
Potdevin Machine Co., 1220—38th St., Brooklyn, N. Y.—5LL2, 5LL7, 5LL22, 5LL30.
Rotogravure Engineering Co., 299 Marginal St., East Boston, Mass.—5LL18, 5LL33.
Rutherford Machine Co., Div. of General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.—5LL40.

Scott, Walter, & Co., Plainfield, N. J.—5LL18, 5LL24, 5LL25, 5LL26, 5LL30, 5LL32, 5LL36, 5LL42.....87

Sevigne, The F. J., Machine Co., Nashua, N. H.—5LL9, 5LL17, 5LL36, 5LL43.
Showcard Machine Co., 1192 Merchandise Mart, Chicago, Ill.—5LL36.
Specialty Automatic Machine Co., 200 Boston Ave., Medford, Mass.—5LL1, 5LL30, 5LL35, 5LL36.
Standard Process Corp., 734 W. Lexington St., Chicago, Ill.—5LL18.
Stokes & Smith Co., Summerdale Ave. & Roosevelt Blvd., Philadelphia, Pa.—5LL32.
Swift, George W., Inc., Bordentown, N. J.—5LL4, 5LL12, 5LL20, 5LL36, 5LL37.
Thomson-National Press Co., Inc., Franklin, Mass.—5LL28
U.P.M.-Kidder Press Co., Inc., Dover, N. H.—5LL2, 5LL5, 5LL7, 5LL22, 5LL25, 5LL36, 5LL43.

Vandercook & Sons, 900 N. Kilpatrick Ave., Chicago, Ill.—5LL9.....99

Webendorfer-Wills Co., 2 South St., Mt. Vernon, N. Y.—5LL9, 5LL21.
Willsea Works, 1042 University Ave., Rochester, N. Y.—5LL6, 5LL36.

Wood Newspaper Machinery Corp., 501 Fifth Ave., New York, N. Y.—5LL7, 5LL25, 5LL33.....21

Young Engineering Co., 2743 N. High St., Chicago, Ill.—5LL4, 5LL22, 5LL36, 5LL39.

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Horton Mfg. Co., 3016 University Ave., S.E., Minneapolis, Minn.

PUMPS (AIR AND INK) 5JJ

American Publishers Supply, P. O. Box 131, West Lynn, Mass.....32-33

Beckfield Rotary Vacuum Blower Co., 220 Penn Ave., Pittsburgh, Pa.

Duplex Printing Press Co., Battle Creek, Mich.....8

Fairbanks, Morse & Co., 900 S. Wabash Ave., Chicago, Ill.

Hoe, R., & Co., Inc., 910 E. 138th St., New York, N. Y. 18-ABCD

Hollingsworth, William, Machine Co., 227 Holliday St., Baltimore, Md.

Leiman Bros., Inc., 146-181 Christie St., Newark, N.J. 160

Oilgear Co., 1301 W. Bruce St., Milwaukee, Wis.
Paasche Airbrush Co., 1909 Diversey Parkway, Chicago, Ill.
Photoengravers Supply Co., 716 W. Indiana Ave., Philadelphia, Pa.
Pine-Ihrig Machine Co., 36 Marion St., Oshkosh, Wis.

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RAISED LETTER PRINTING MACHINES AND POWDERS 5MM

American Type Founders, 200 Elmora Ave., Elizabeth, N. J.....82-ABCD

Barnard, Paul J., Mfg. Co., 1600 Junction Ave., Racine, Wis.
Embossograph Process Co., Inc., 251 William St., New York, N. Y.
Flexo Mfg. Co., Inc., 35 Howard St., New York, N. Y.
Stokes, The A., Co., Hudson, O.
Wood, Nathan & Virkus Co., Inc., 112 Charlton St., New York, N. Y.

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5NN3 Hand.
5NN4 Offset-Lithographic.
5NN5 Patent.
5NN6 Rubber.
5NN7 Synthetic Resin-Like.

American Printers Roller Co., 1342 N. Halsted St., Chicago, Ill.—5NN1.
Bingham Bros. Co., 406 Pearl St., New York, N. Y.—5NN1, 5NN2, 5NN3.
Bingham & Runge Co., The, 1374 E. 12th St., Cleveland, O.—5NN1, 5NN4, 5NN5, 5NN6.

Bingham's, Sam'l., Son Mfg. Co., 636 Sherman St., Chicago, Ill., with branches in principal printing centers throughout the country.—5NN1, 5NN2, 5NN3, 5NN4, 5NN5, 5NN6, 5NN7.
California Ink Co., The, 545 Sansome St., San Francisco, Calif.—5NN1, 5NN2, 5NN3, 5NN4, 5NN5, 5NN6, 5NN7.
Chicago Roller Co., 554-570 W. Harrison St., Chicago, Ill.—5NN1, 5NN2, 5NN3, 5NN4, 5NN6, 5NN7.
Dayco Div. Dayton Rubber Mfg. Co., Dayton, O.—5NN4, 5NN7.

Duplex Printing Press Co., Battle Creek, Mich.—5NN1, 5NN6 8

General Tire & Rubber Co., Akron, O.—5NN6 136

Godfrey Roller Co., 211-15 N. Camac St., Philadelphia, Pa.—5NN1, 5NN3, 5NN6.

Goodyear Tire & Rubber Co., The, Akron, O.—5NN6 ... 36

Goodrich, B. F., Rubber Co., 434 S. Main St., Akron, O.—5NN6 10

Hart, William C., Co., 137 Greene St., New York, N. Y.—5NN1, 5NN2.

Ideal Roller & Mfg. Co., 2512 W. 24th St., Chicago, Ill.—5NN2, 5NN4, 5NN5, 5NN6 69

Maigne, O. J., Co., 356 Pearl St., New York, N. Y.—5NN1, 5NN2, 5NN3, 5NN4, 5NN5, 5NN6, 5NN7.
Manhattan Rubber Mfg. Div., Raybestos-Manhattan, Inc., 61 Willett St., Passiac, N. J.—5NN6.
Milwaukee Printers Roller Co., 422 S. Fourth St., Milwaukee, Wis.—5NN.
Nelson Roller Co., Tribune Tower, Chicago, Ill.—5NN5, 5NN7.

Niles & Nelson, Inc., 75 West St., New York, N. Y.—5NN6 10

Ohio Roller Co., 4408 Detroit Ave., Cleveland, O.—5NN1, 5NN3, 5NN5.
Osgood-Globe Corp., 33 Purchase St., Boston, Mass.—5NN1, 5NN4, 5NN5, 5NN6, 5NN7.
Rapid Roller Co., 2558 S. Federal St., Chicago, Ill.—5NN1, 5NN4, 5NN6, 5NN7.
Roberts & Porter, Inc., 402 S. Market St., Chicago, Ill.—5NN4.

Sands-Hesse Co., 2476 E. 13th St., Cleveland, O—5NN1, 5NN3 161

Sands Roller Co., 2859 Detroit Ave., Cleveland, O.—5NN1, 5NN3.

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Twin City Printers Roller Co., 505 S. 3rd St., Minneapolis, Minn.—5NN1.
Vogt Roller Co., Inc., 22 S. 12th St., Louisville, Ky.—5NN1, 5NN6.

Vulcan Proofing Co., 1st Ave. & 58th., Brooklyn, N. Y.—5NN6, 5NN7 25

Western Roller & Machinery Co., 1716 Arapahoe St., Denver, Colo.—5NN1.
Wild & Stevens, Inc., 5 Purchase St., Boston, Mass.—5NN1, 5NN2, 5NN3, 5NN4, 5NN6, 5NN7.
Winn & Goodman, 350 Sansome St., San Francisco, Calif.—5NN1, 5NN3.

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Dust-Less Equipment Co., 4021—19th St., N. E., Washington, D. C. 137

Sebastian Lathe Co., Cincinnati, O.

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American Type Founders, 200 Elmora Ave., Elizabeth, N. J. 82-ABCD

Justrite Mfg. Co., 2061 Southport Ave., Chicago, Ill.

SAFETY GUARDS 5QQ

Reliable Printing Equipment Co., The, 357 Bangor Bldg., Cleveland, O.

SALES BOOK PRINTING PRESSES
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SHEET NEUTRALIZERS
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SLITTING, PERFORATING AND SCORING ATTACHMENTS
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SLITTING AND REWINDING EQUIPMENT 5RR

Atkins, E. C., & Co., 402 S. Illinois St., Indianapolis, Ind.

American Publishers Supply, P. O. Box 131, West Lynn, Mass. 32-33

American Type Founders, 200 Elmora Ave., Elizabeth, N. J. 82-ABCD

Cameron Machine Co., 61 Poplar St., Brooklyn, N. Y.

Hamilton Tool Co., The, 220-222 N "B" St., Hamilton, O. 151-158

Kohler Bros., 1072 Wrigley Bldg., Chicago, Ill.
Knowlton, M. D., Co., 28 Industrial St., Rochester, N. Y.

Meisel Press Mfg. Co., 942 Dorchester Ave., Boston, Mass. 149

Potdevin Machine Co., 1220—38th St., Brooklyn, N. Y.

U.P.M.-Kidder Press Co., Inc., Dover, N. H.

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5TT3 Overlay Knives.

American Type Founders, 200 Elmora Ave., Elizabeth, N. J.—5TT1, 5TT2 ..... 82-ABCD

McKinley Litho Supply Co., 1620 John St., Cincinnati, O.—5TT1.

TRANSMISSIONS FOR PRESSES 5SS

Link-Belt Co., 307 N. Michigan Blvd., Chicago, Ill.
Oilgear Co., 1301 W. Bruce St., Milwaukee, Wis.
Reeves Pulley Co., Columbus, Ind.

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Form Lifts, See 1DD Composing Room.
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5UU2 Paper Roll.
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Berry Machine Co., 716 N. First St., St. Louis, Mo.—5UU3.
Central Machine Works, 437 S. Senate Ave., Indianapolis, Ind.—5UU2.

Cline Electric Mfg. Co., 211 W. Wacker Drive, Chicago, Ill.—5UU1, 5UU2, 5UU3 12-13

Cutler-Hammer, Inc., N. 12th St. and W. St. Paul Ave., Milwaukee, Wis.—5UU1, 5UU2, 5UU3.
Lewis-Shepard Co., 125 Walnut St., Watertown Sta., Boston, Mass.—5UU1, 5UU2, 5UU3.
Norman, William A., 180 N. Michigan Ave., Chicago, Ill. 5UU1, 5UU2.
Nutting Truck Co., 3116 W. Division St., Faribault, Minn.—5UU1, 5UU2, 5UU3.
Omaha Folding Machine Co., 2009 Cuming St., Omaha, Neb.—5UU3.
Revolvator Co., State St. at Bergen Turnpike, North Bergen, N. J.—5UU1, 5UU2, 5UU3.

Rouse, H. B., Co., 2214 Ward St., Chicago, Ill.—5UU3 .. 63

Tucker-Dorsey Mfg. Corp., 302 S. State St., Indianapolis, Ind.
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A

ADHESIVES 6A

American Printers' Roller Co., 1342 N. Halsted St., Chicago, Ill.
Arabol Mfg. Co., The, 110 E. 42nd St., New York, N. Y.
Bingham Bros. Co., 406 Pearl St., New York, N. Y.
Buckeye Paste Co., 270 S. Wall St., Columbus, O.
Burrage, Robt. R., 15 Vandewater St., New York, N. Y.
Findley, The F. G., Co., 1243 N. 10th St., Milwaukee, Wis.
Fuller, H. B., Co., 175-183 S. Franklin St., St. Paul, Minn.
Gane Bros. & Lane, Inc., 1335 W. Lake St., Chicago, Ill.
Godfrey Roller Co., 211-15 N. Camac St., Philadelphia, Pa.
Green's Paste Works, 2912 S. Salina St., Syracuse, N. Y.
Hart, William C., Co., 137 Greene St., New York, N. Y.
Hoyt, Arthur S., Co., Inc., 175 Fifth Ave., New York, N. Y.
Johnson, The Wm. A., Co., 72 Columbia St., Seattle, Wash.
Lox Mfg. Co., Merriam, Kans.
Maigne, O. J., Co., 356 Pearl St., New York, N. Y
National Adhesives Corp., 820 Greenwich St., New York, N. Y.
Osgood-Globe Corp., 33 Purchase St., Boston, Mass.
Union Rubber & Asbestos Co., Trenton, N. J.
Williamson Glue & Gum Works, 2327 W. 18th St., Chicago, Ill.
Winn & Goodman, 350 Sansome St., San Francisco, Calif.

ASSEMBLING MACHINES
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AUTOMATIC CUTTING MACHINES
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6B2 Leather.
6B3 Leather Substitutes.
6B4 Tape.
6B5 Thread and Twine.
Aigner, G. J., Co., 503 S. Jefferson St., Chicago, Ill.—6B1.
Coated Textile Mills, Inc., Columbus & York Aves., Pawtucket, R. I.—6B3.
Corkpak Co., The, 250 E. 43rd St., New York, N. Y.—6B1, 6B2.....157
Gane Bros. & Lane, Inc., 1335 W. Lake St., Chicago, Ill.—6B1, 6B3, 6B4, 6B5.
Meyer, John C., Thread Co., 1449-95 Middlesex St., Lowell, Mass.—6B5.
Mid-States Gummed Paper Co., 2433 S. Damen Ave., Chicago, Ill.—6B4.
Smyth, Joseph E., Co., 720 S. Dearborn St., Chicago, Ill.—6B4, 6B5.

BLADES FOR SHEARS
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BOARD BEVELLERS 6C
Durbrow & Hearne, 12 Wooster St., New York, N. Y.
Pleger, John J., Co., 609 W. Lake St., Chicago, Ill.

BOARD STOCK
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BONE FOLDERS
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BOOK SMASHING MACHINES 6D
Krause, Karl, U. S. Corp., 55 Vandam St., New York, N. Y.....143
Pleger, John J., Co., 609 W. Lake St., Chicago, Ill.

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See 1Y Composing Room.

CASE MACHINES 6E
6E1 Case Back Forming.
6E2 Case Bending.
6E3 Case Feeding.
6E4 Case Making.
Fuller, E. C., Co., 28 Reade St., New York, N. Y.—6E1, 6E2, 6E3, 6E4.
Meyers, L. W., Co., 1828 Milwaukee Ave., Chicago, Ill.—6E.
Pleger, John J., Co., 609 W. Lake St., Chicago, Ill.
Sheridan, T. W. & C. B., Co., 129 Lafayette St., New York, N. Y.—6E3, 6E4.
Smyth Mfg. Co., The, 9 Sigourney St., Hartford, Conn.—6E1, 6E2, 6E3, 6E4.

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CONTINUOUS TRIMMERS 6F
Seybold Machine Co., Div. Harris Seybold Potter Co., 813 Washington St., Dayton, O.
Sheridan, T. W. & C. B., Co., 129 Lafayette St., New York, N. Y.

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Pleger, John J., Co., 609 W. Lake St., Chicago, Ill.

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American Type Founders, 200 Elmora Ave., Elizabeth, N. J. 82-ABCD

Challenge Machinery Co., Grand Haven, Mich. 61

Gane Bros. & Lane, Inc., 1335 W. Lake St., Chicago, Ill.

Harris Seybold Potter Co., 4510 E. 71st St., Cleveland, O. 26-27

Mick, Walter K., Co., 500 Robert St., St. Paul, Minn.
Nygren-Dahly Co., 218-30 N. Jefferson St., Chicago, Ill.
Seybold Machine Co., Div. Harris Seybold Potter Co., 813 Washington St., Dayton, O.

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EMBOSSING PRESSES
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EYELETTING MACHINES 6J
Bates Mfg. Co., The, 30 Vesey St., New York, N. Y.
Makatag Mfg. Corp., Reading, Mass.
Stimpson, Edwin B., Co., 793 Kent Ave., Brooklyn, N. Y.

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FEEDERS AND FOLDING MACHINES
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FEEDERS, ROLL LEAF
See 5Q Pressroom.

FOLDERS, BONE
See 6FF Tools.

FOLDING MACHINES
See 5Q Pressroom.

FOIL 5K
Gane Bros. & Lane, Inc., 1335 W. Lake St., Chicago, Ill.
Grauert, R. W., Inc., 66 W. Broadway, New York, N. Y.
Hastings & Co., 819-821 Filbert St., Philadelphia, Pa.
Kemp, W. H., Co., 350 Hudson St., New York, N. Y.
Kwikprint Co., The, 605 W. Washington Blvd., Chicago, Ill.
Peerless Roll Leaf Co., Inc., 911 New York Ave., Union City, N. J.
Reynolds Metals Co., 19 Rector St., New York, N. Y.
Simplex Gold Stamping Press Co., Inc., 425 Fourth Ave., New York, N. Y.
Swift, M., & Sons, Inc., 10 Love Lane, Hartford, Conn.
Wehrung & Billmeier Co., 3624-30 Lincoln Ave., Chicago, Ill.

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Christensen Machine Co., The, 100 Fourth St., Racine, Wis. 71

Martin Machinery Corp., 50 Church St., New York, N. Y.
Sheridan, T. W. & C. B., Co., 129 Lafayette St., New York, N. Y.

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6M2 Gluing.
6M3 Gumming.
6M4 Labeling.
6M5 Lining.
6M6 Mounting.
6M7 Paper Covering.
6M8 Pasting.
6M9 Stripping.

Acme Electric Heating Co., 1217 Washington St., Boston, Mass.

American Type Founders, 200 Elmora Ave., Elizabeth, N. J.—6M1, 6M2, 6M7 ..... 82-ABCD

Brackett Stripping Machine Co., 505 Jackson St., Topeka, Kans.—6M9.
Clarke, E. C., 250 Nicollet Ave., Minneapolis, Minn.—6M2.
Doepel, J. E., Co., 623 Cherry St., Philadelphia, Pa.—6M2, 6M8.
Durbrow & Hearne, 12 Wooster St., New York, N. Y.—6M2
Fuller, E. C., Co., 28 Reade St., New York, N. Y.—6M2.
Gane Bros. & Lane, Inc., 1335 W. Lake St., Chicago, Ill.—6M2, 6M4.
Martin Machinery Corp., 50 Church St., New York, N. Y.—6M7.
Parry, S. R., Machine Co., 222 Mill St., Rochester, N. Y.
Philadelphia Thermometer Co., 915 Filbert St., Philadelphia, Pa.
Pleger, John J., Co., 609 W. Lake St., Chicago, Ill.—6M1, 6M2, 6M3, 6M5, 6M7, 6M8, 6M9.
Potdevin Machine Co., 1220—38th St., Brooklyn, N. Y.—6M2, 6M3, 6M4, 6M8.
Russell Electric Co., 340 W. Huron St., Chicago, Ill.—6M1.
Safety Electric Heater Co., Faribault, Minn.—6M1.
Sheridan, T. W. & C. B., Co., 129 Lafayette St., New York, N. Y.
Smyth Mfg. Co., The, 9 Sigourney St., Hartford, Conn.—6M2.
Standard Paper Box Machine Co., Inc., 115 Wooster St., New York, N. Y.
Sta-Warm Electric Co., Ravenna, O.—6M1, 6M3.

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Krause, Karl, U. S. Corp., 55 Vandam St., New York, N. Y. 143

National Bundle Tyer Co., 24 Adrian St., W., Blissfield, Mich.
Smyth, Joseph E., Co., 720 S. Dearborn St., Chicago, Ill.

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LOOPING, KNOTTING AND STRINGING MACHINES
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M

MOTORS AND CONTROLS 6O
Century Electric Co., 1806 Pine St., St. Louis, Mo.

Cline Electric Mfg. Co., 211 W. Wacker Drive, Chicago, Ill. 12-13

Emerson Electric Mfg. Co., The, 2038 Washington Ave., St. Louis, Mo.

General Electric Co., 1 River Rd., Schenectady, N. Y. 64-65

Kimble Electric Co., 2011 Hastings St., Chicago, Ill. 157

Marathon Electric Mfg. Corp., P. O. Box 440, Wausau, Wis.
Monitor Controller Co., 51 S. Gay St., Baltimore, Md.
Reliance Electric & Engineering Co., Ivanhoe Rd., Cleveland, O.

U. S. Electrical Motors, Inc., 200 E. Slauson Ave., Los Angeles, Calif. 24

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PAGING AND NUMBERING MACHINES 6P

American Type Founders, 200 Elmora Ave., Elizabeth, N. J. 82-ABCD

Hoole Machine & Engraving Works, Inc., 30 Main St., Brooklyn, N. Y.

Krause, Karl, U. S. Corp., 55 Vandam St., New York, N. Y. 143

McAdams, John, & Sons, 978 Kent Ave., Brooklyn, N. Y.
Nygren-Dahly Co., 218 N. Jefferson St., Chicago, Ill.

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PASTING MACHINES
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PATCH MACHINES 6Q
Makatag Mfg. Corp., Reading, Mass.

PERFORATING MACHINES 6R

American Type Founders, 200 Elmora Ave., Elizabeth, N. J. 82-ABCD

Bates Mfg. Co., The, 30 Vesey St., New York, N. Y.

Harris Seybold Potter Co., 4510 E. 71st St., Cleveland, O. 26-27

Jones, James H., Corp., 430 S. Green St., Chicago, Ill.
Nygren-Dahly Co., 218 N. Jefferson St., Chicago, Ill.
Rosback, F. P., Co., Fifth, Park and Water Sts., Benton Harbor, Mich.
Steel, B. W., 411 E. Pico St., Los Angeles, Calif.

PERFORATING, PUNCHING AND ROUND CORNERING MACHINES 6S

American Type Founders, 200 Elmora Ave., Elizabeth, N. J. 82-ABCD

Berry Machine Co., 716 N. First St., St. Louis, Mo.

Challenge Machinery Co., Grand Haven, Mich. 61

Excello Machine Co., Grand Rapids, Mich.
Gane Bros. & Lane, Inc., 1335 W. Lake St., Chicago, Ill.

Harris Seybold Potter Co., 4510 E. 71st St., Cleveland, O. 26-27

Helmold, J. F., & Bros., Inc., 1462 Custer St., Chicago, Ill.
Jones, James H., Corp., 430 S. Green St., Chicago, Ill.

Krause, Karl, U. S. Corp., 55 Vandam St., New York, N. Y. 143

Nygren-Dahly Co., 218 N. Jefferson St., Chicago, Ill.
Pleger, John J., Co., 609 W. Lake St., Chicago, Ill.
Rosback, F. P., Co., Fifth, Park and Water Sts., Benton Harbor, Mich.
Seybold Machine Co., Div. Harris Seybold Potter Co., 813 Washington St., Dayton, O.

Southworth Machine Co., 30 Warren Ave., Portland, Me. 153

Spiral Binding Co., 148 Lafayette St., New York, N. Y. 130-131

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American Type Founders, 200 Elmora Ave., Elizabeth, N. J.—6T1, 6T2, 6T3, 6T4, 6T5, 6T7, 6T8 ..... 82-ABCD

Anderson, C. F., & Co., 3225 Calumet Ave., Chicago, Ill.—6T2.
Berry Machine Co., 716 N. First St., St. Louis, Mo.—6T7.
Boehner Binder Co., 111 Fox St., Aurora, Ill.—6T3, 6T4.

Bunn, B. H., Co., Vincennes Ave. and 76th St., Chicago, Ill.—6T2.
Dexter Folder Co., 28 23rd St., New York, N. Y.—6T2.
Fuller, E. C., Co., 28 Reade St., New York, N. Y.—6T1, 6T4.
Gane Bros. & Lane, Inc., 1335 W. Lake St., Chicago, Ill.—6T3, 6T4, 6T6.
Gardner, P. A., Inc., 709 Pine St., St. Louis, Mo.—6T3.
Gerrard Co., Inc., 2915 W. 47th St., Chicago, Ill.—6T2.
Hickok, W. O., Mfg. Co., Harrisburg, Pa.—6T1, 6T5, 6T7.
Jones, James H., Corp., 430 S. Green St., Chicago, Ill.—6T1, 6T4.
Krause, Karl, U. S. Corp., 55 Vandam St., New York, N. Y.—6T1, 6T3, 6T4.....143
Kwikprint Co., The., 605 W. Washington Blvd., Chicago, Ill.—6T3.
Martin Machinery Corp., 50 Church St., New York, N. Y.—6T1.
Meyers, L. W., Co., 1828 Milwaukee Ave., Chicago, Ill.—6T1.
Peerless Roll Leaf Co., Inc., 911 New York Ave., Union City, N. J.—6T3, 6T4.
Pleger, John J., Co., 609 W. Lake St., Chicago, Ill.—6T1.
Potdevin Machine Co., 1220-38th St., Brooklyn, N. Y.
Roovers Bros., Inc., 3611-14th Ave., Brooklyn, N. Y.—6T4, 6T5, 6T6.
Schroeter, J. H., & Bro., Inc., 223 Central Ave., S. W., Atlanta, Ga.—6T1, 6T7.
Seybold Machine Co., Div. Harris Seybold Potter Co., 813 Washington St., Dayton, O.—6T1.
Sheridan, T. W. & C. B., Co., 129 Lafayette St., New York, N. Y.—6T1, 6T4.
Simplex Gold Stamping Press Co., Inc., 425 Fourth Ave., New York, N. Y.—6T3, 6T4.
Standard Machinery Co., The, 12 Water St., Mystic, Conn.—6T1, 6T3, 6T4, 6T7.
Swift, M. & Sons, Inc., 10 Love Lane, Hartford, Conn.—6T3.

PROCESS BINDING 6EE
Cercla, Inc., 231 S. Green St., Chicago, Ill.
Coil Binding Co., 55 Farragut St., N. E., Portland, Ore.
Plastic Binding Corp., 732 Sherman St., Chicago, Ill.
Spiral Binding Co., 148 Lafayette St., New York, N. Y......130-131
Trussell Manufacturing Co., Poughkeepsie, N. Y.

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Pleger, John J., Co., 609 W. Lake St., Chicago, Ill.
Seybold Machine Co., Div. Harris Seybold Potter Co., 813 Washington St., Dayton, O.

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Fuller, E. C., Co., 28 Reade St., New York, N. Y.
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Martin Machinery Corp., 50 Church St., New York, N. Y.
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Sheridan, T. W. & C. B., Co., 129 Lafayette St., New York, N. Y.
Smyth Mfg. Co., The, 9 Sigourney St., Hartford, Conn.

RULING MACHINES AND ACCESSORIES 6W
Gane Bros. & Lane, Inc., 1335 W. Lake St., Chicago, Ill.
Hickok, W. O., Mfg. Co., Harrisburg, Pa.
Krause, Karl, U. S. Corp., 55 Vandam St., New York, N. Y......143
Lindbladh Corp., The, 40 Court St., Boston, Mass.
McAdams, John & Sons, 978 Kent Ave., Brooklyn, N. Y.
Renz, Fred, & Son, 7025—83rd St., Glendale, New York, N. Y.
Zanetti, J. Machine Works, 1701 Kirkwood Ave., San Francisco, Calif.

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SAFETY CANS
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SEWING MACHINES 6X
6X1 Machines.
6X2 Needles.
Fuller, E. C., Co., 28 Reade St., New York, N. Y.—6X1, 6X2.
Krause, Karl, U. S. Corp., 55 Vandam St., New York, N. Y.—6X1, 6X2.....143
Meyer, John C., Thread Co., 1449 Middlesex St., Lowell, Mass.—6X.
Oversewing Machine Co., 770 E. Washington Blvd., Los Angeles, Calif.—6X1.
Pleger, John J., Co., 609 W. Lake St., Chicago, Ill.
Smyth, Joseph E., Co., 720 S. Dearborn St., Chicago, Ill.—6X1, 6X2.
Smyth Mfg. Co., The, 9 Sigourney St., Hartford, Conn.—6X1, 6X2.

SHEARS AND BLADES 6Y
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American Type Founders, 200 Elmora Ave., Elizabeth, N. J......82-ABCD
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Detroit Edge Tool Co., 433 Mt. Elliott Ave., Detroit, Mich.—6Y2.
Durbrow & Hearne, 12 Wooster St., New York, N. Y.
Fuller, E. C., Co., 28 Reade St., New York, N. Y.
Gane Bros. & Lane, Inc., 1335 W. Lake St., Chicago, Ill.—6Y1, 6Y2.
Hickok, W. O., Mfg. Co., Harrisburg, Pa.—6Y1.
Jacques, John & Son, 93 Webster St., Worcester, Mass.—6Y1, 6Y2.
Jones, James H. Corp., 430 S. Green St., Chicago, Ill.
Knowlton, M. D., 28 Industrial St., Rochester, N. Y.—6Y1, 6Y2.
Loyd, John, Co., 87 Walker St., New York, N. Y.—6Y2.
Robinson, John T. Co., Hyde Park, Mass.
Shawver Co., The, 21 W. Pleasant St., Springfield, O.—6Y1, 6Y2.
Smyth Mfg. Co., The, 9 Sigourney St., Hartford, Conn.—6Y1, 6Y2.
Wapakoneta Machine Co., The, Wapakoneta, O.—6Y2.

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Davidson Perforator Corp., 7157—68th Place, Glendale, Brooklyn, N. Y......160
Fuller, E. C., Co., 28 Reade St., New York, N. Y.
Gane Bros. & Lane, Inc., 1335 W. Lake St., Chicago, Ill.
Jacques, John & Sons, 93 Webster St., Worcester, Mass.
Knowlton, M. D., Co., 28 Industrial St., Rochester, N. Y.
McAdams, John & Sons, 978 Kent Ave., Brooklyn, N. Y.
Pine-Ihrig Machine Co., 36 Marion St., Oshkosh, Wis.

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STABBING MACHINES 6AA
American Type Founders, 200 Elmora Ave., Elizabeth, N. J......82-ABCD
Hickok, W. O., Mfg. Co., Harrisburg, Pa.

STANDING PRESSES
See under 6T Presses.

STAPLING MACHINES 6BB
6BB1 Machines.
6BB2 Wire.
Acme Staple Co., 1643 Haddon Ave., Camden, N. J.
American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill.—6BB2.
American Type Founders, 200 Elmora Ave., Elizabeth, N. J......82-ABCD
Bates Mfg. Co., The, 30 Vesey St., New York, N. Y.
Boston Wire Stitcher Co., East Greenwich, R. I.,—6BB1, 6BB2.
Chicago Steel & Wire Co., 10527 Torrence Ave.,Chicago, Ill.—6BB2.
Hotchkiss, E. H., Co., Norwalk, Conn.—6BB1, 6BB2.
Prentiss, George W., & Co., 439 Dwight St., Holyoke, Mass.—6BB2.
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Wickwire-Spencer Steel Co., 41 E. 42nd St., New York, N. Y.—6BB2.

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American Type Founders, 200 Elmora Ave., Elizabeth, N. J.—6CC1, 6CC2.....82-ABCD
Boston Wire Stitcher Co., East Greenwich, R. I.—6CC1, 6CC2.
Chicago Steel & Wire Co., 10527 Torrence Ave., Chicago, Ill.—6CC2.
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Ideal Stitcher & Mfg. Co., The, 100 Fourth St., Racine, Wis.—6CC1, 6CC2.
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New Jersey Wire Stitching Machine Co., 604-606 S. Second St., Camden, N. J.—6CC1, 6CC2.
Nygren-Dahly Co., 218 N. Jefferson St., Chicago, Ill.
Prentiss, Geo. W. & Co., 439 Dwight St., Holyoke, Mass.—6CC2.
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Sheridan, T. W. & C. B. Co., 129 Lafayette St., New York, N. Y.
Wickwire Spencer Steel Co., 41 E. 42nd St., New York, N. Y.—6CC2.

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Gane Bros. & Lane, Inc., 1335 W. Lake St., Chicago, Ill.
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Linzer, David & Sons, Inc., 10-20 Astor Place, New York, N. Y.

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Hamilton Mfg. Co., Two Rivers.
Hickok, W. O., Mfg. Co., Harrisburg, Pa.
Jampol Co., The, 11 Park Place, New York, N. Y......30
Pleger, John J., Co., 609 W. Lake St., Chicago, Ill.

TIPPING MACHINES 1GG
Marresford, Wm. F., Inc., College and Highland Aves., Niagara Falls, N. Y.
Parry, S. R. Machine Co., 222 Mill St., Rochester, N. Y.

THREAD AND TWINE
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TIME CLOCKS, RECORDERS
See 8J Miscellaneous.

TOOLS 6FF
Hammers, Bone Folders, Polishers, etc.
Acme Electric Heating Co., 1217 Washington St., Buffalo, N. Y.
Atkins, E. C. & Co., 402 S. Illinois St., Indianapolis, Ind.
Durbrow & Hearne, 12 Wooster St., New York, N. Y.
Hickok, W. O., Mfg. Co., Harrisburg, Pa.

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ADHESIVES 7A
American Printers' Roller Co., 1342 N. Halsted St., Chicago, Ill.
Arabol Mfg. Co., The, 110 E. 42nd St., New York, N. Y.
Buckeye Paste Co., 270 S. Wall St., Columbus, O.
Findley, The F. G. Co., 1243 N. 10th St., Milwaukee, Wis.
Fuller, H. B. Co., 175-183 S. Franklin St., St. Paul, Minn.
Green's Paste Works, 2912 S. Salina St., Syracuse, N. Y.
Hoyt, Arthur S. Co., Inc., 175 Fifth Ave., New York, N. Y.
National Adhesives Corp., 820 Greenwich St., New York, N. Y.

ADDRESSING AND MAILING MACHINES 7B
7B1 Addressing.
7B2 Mailing.
7B3 Strip Printing.
7B4 Wrapper Printing and Wrapping.
Barkley Associates, 176 Federal St., Boston, Mass.—7B4.
Cheshire Mailing Machines, 111 W. Washington St., Suite 1812, Chicago, Ill.—7B1, 7B2.
Elliott Addressing Machine Co., 143 Albany St., Cambridge, Mass.—7B1, 7B4.
Kay Bee Sealing Service, 427 W. 42nd St., New York, N. Y.—7B2.
Marsh Stencil Machine Co., 707 E. B. St., Belleville, Ill.—7B.
Martin Machinery Corp., 50 Church St., New York, N. Y.—7B2, 7B4.
Pavyer Printing Machine Works, 600 S. Broadway, St. Louis, Mo.—7B2.
Pitney-Bowes Postage Meter Co., 757 Pacific St., Stamford, Conn.—7B2.
Wing's Sons, Chauncey, Greenfield, Mass.—7B1, 7B2.

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Nashua Package Sealing Co., Inc., Nashua, N. H.
Pleger, John J., Co., 609 W Lake St., Chicago, Ill.

MOISTENERS FOR TAPE
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N

NEWSPAPER STUFFING MACHINES 7D
Ellsworth Machine Co., 1821 Central St., Kansas City, Mo.

PACKAGING AND TYING MACHINES 7E
Anderson, C. F., & Co., 3225 Calumet Ave., Chicago, Ill.
Bunn, B. H., Co., Vincennes Ave and 76th St., Chicago, Ill.
Gerrard Co., Inc., 2915 W. 47th St., Chicago, Ill.
National Bundle Tyer Co., 24-30 Adrian St., W., Blissfield, Mich.

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SCALES 7F
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7F2 Postal.
Fairbanks, Morse & Co., 900 S. Wabash Ave., Chicago, Ill.—7F1, 7F2.
Read Machinery Co., Inc., York, Pa.
Toledo Scale Co., Toledo, O.

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WRAPPING MACHINES
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Ask
Printing
EQUIPMENT
Engineer
to find it for you

P-Double-E Filing System

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8B Architects and Engineers
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8L Waste Paper Balers

8A Air Conditioning Equipment and Supplies

Advance Mfg. Co., Inc., 350 N. 26th St., Louisville, Ky.
American Blower Corp., 6000 Russell St., Detroit, Mich.

Bristol Co., The, Waterbury, Conn.
Buffalo Forge Co., 490 Broadway, Buffalo, N. Y.

Marathon Electric Mfg. Corp., P. O. Box 440, Wausau, Wis.

Offen, B., & Co., 608 S. Dearborn St., Chicago, Ill.

Parks-Cramer Co., Fitchburg, Mass., and Charlotte, N. C.

Russell Electric Co., 340 W. Huron St., Chicago, Ill.

Southworth Machine Co., 30 Warren Ave., Portland, Me. 153

Standard Engineering Works, 289 Roosevelt Ave., Pawtucket, R. I.
Static Eliminator Co., 239 Centre St., New York, N. Y.

Utility Heater Co., 239 Centre St., New York, N. Y.

Willsea Works, 1042 University Ave., Rochester, N. Y.
Wing, L. J., Mfg. Co., 154 W. 14th St., New York, N. Y.

York Ice Machy. Corp., York, Pa.
Young Radiator Co., Racine, Wis.

8B Architects and Engineers

Barkley Associates, 176 Federal St., Boston, Mass.
Boyar-Schultz Corp., 2110 W. Walnut St., Chicago, Ill.

Excello Machine Co., Grand Rapids, Mich.

Frazier Processes, Inc., 50 Church St., New York, N. Y.

Hunt, Robert W., Co., 175 W. Jackson Blvd., Chicago, Ill.

Thomas, James William, Standard Bldg., Cleveland, O.

8C Bag Making Equipment and Supplies

Ames Bag Machine Co., E. 66th St. and Euclid Ave., Cleveland, O.

Cottrell, C. B., & Sons Co., P. O. Drawer 515, Westerly, R. I. 53

Heinrich, H. H., Inc., 200 Varick St., New York, N. Y.

Potdevin Machine Co., 1220—38th St., Brooklyn, N. Y.

8D Box and Carton Equipment and Supplies

Babcock Printing Press Mfg. Co., The, 38 Park Row, New York, N. Y.
Boston Wire Stitcher Co., East Greenwich, R. I.

Chicago Box Machine Works, 1810 W. Grand Ave., Chicago, Ill.
Chicago Steel & Wire Co., 10527 Torrence Ave., Chicago, Ill.
Cottrell, C. B., & Sons Co., P. O. Drawer 515, Westerly, R. I. 53

Harris Seybold Potter Co., 4510 E. 71st St., Cleveland, O. 26-27
Hobbs Mfg. Co., 26 Salisbury St., Worcester, Mass.
Hooper, F. X., Co., Inc., Glen Arm, Md.

Inman Mfg. Co., Amsterdam, N. Y.
International Paper Box Machine Co., Nashua, N. H.

Meisel Press Mfg. Co., 942 Dorchester Ave., Boston, Mass. 149
Miehle Printing Press & Mfg. Co., 14th St. and S. Damen Ave., Chicago, Ill. 31

Knowlton, M. D., Co., 28 Industrial St., Rochester, N. Y.
Krause, Karl, U. S. Corp., 55 Vandam St., New York, N. Y. 143

Parry, S. R., 224 Mill St., Rochester, N. Y.
Printing Machinery Co., The., 436 Commercial Sq., Cincinnati, O.

Richards, J. A., Co., Kalamazoo, Mich.
Robinson, John T., Co., Hyde Park, Mass.

Saranac Machine Co., 376 W. Main St., Benton Harbor, Mich.
Scott, Walter, & Co., Plainfield, N. J. 87
Specialty Automatic Machine Co., 200 Boston Ave., Medford, Mass.
Standard Machinery Co., The, 12 Water St., Mystic, Conn.
Standard Paper Box Mach. Co., The, 115 Wooster St., New York, N. Y.

Thomson-National Press Co., Inc., Franklin, Mass.

U. P. M.-Kidder Press Co., Inc., Dover, N. H.

Williamson Glue and Gum Works, 2327 W. 18th St., Chicago, Ill.
Willsea Works, 1042 University Ave., Rochester, N. Y.

8E Macerating Machines

Blomfeldt & Rapp Co., 108 N. Jefferson St., Chicago, Ill.

8F Machinery Dealers

Abrams, The M. L., Co., 1639 Superior Ave., Cleveland, O. 137
Allied Printing & Binding Machinery, Inc., 1975 E. 65th St., Cleveland, O. 144
American Steel Chase Co., 122 Centre St., New York, N. Y. 153

Baker, A. F., Machine Co., 142 Oliver St., Boston, Mass.
Barager, M. E., 6523—20th Ave., N. E., Seattle, Wash.
Beall, Jas. I., 115 S. Union St., Akron, O.
Benson, W. B., & Co., 1018 Douglas St., Omaha, Neb.
Brintnall, Harry W., Co., 430 Howard St., San Francisco, Calif.
Bush Krebs Co., Inc., 408 W. Main St., Louisville, Ky.

Campbell Printing Press, 118—199th St., St. Albans, New York, N. Y.
Chapman Sales & Mfg. Co., 504 S. Broadway, St. Louis, Mo.
Charnock Co., 158-162 Ellicott St., Buffalo, N. Y.
Chicago Linotype Maintenance Co., 564 W. Randolph St., Chicago, Ill.
Chicago Printers Machinery Works, 601-609 W. Lake St., Chicago, Ill. 133

Dilkes, C. E., Co., 6 Dawson St., Newark, N. J.
Dorsey Printers Supply Co., Inc., 88 Hernando St., Memphis, Tenn.
Durbrow & Hearne, 12 Wooster St., New York, N. Y.

Electric Heating Co., 8616 Madison Ave., Southgate, Calif.

Farnsworth, John, Bourse Bldg., Philadelphia, Pa.

Gegenheimer, William, Inc., 78-80 Roebling St., Brooklyn, N. Y.
Gibbs-Brower Co., Inc., 21 E. 40th St., New York, N. Y.
Gimmel Bros., Inc., 17-19 Second St., San Francisco, Calif.
Gorton, The Clifford W. Co., 242 George St., New Haven, Conn.
Griffiths, John, Co., Inc., 145 Nassau St., New York, N. Y.

Hall, Norman F., Co., 167 First St., San Francisco, Calif.
Hansen, H. Alfred, 610 Atlantic Ave., Boston, Mass.
Hartnett, R. W., Co., 1025 Cherry St., Philadelphia, Pa.
Heidelberg Printing Machinery Corp., 228 E. 48th St., New York, N. Y. 135
Heinsohn, A. E., 1441-47 Blake St., Denver, Colo.
Hennigan, J. D., Co., 551-53 Fulton St., Chicago, Ill.
Hood-Falco Corp., 225 Varick St., New York, N. Y.

Independent Electric Machinery Co., 300 Southwest Blvd., Kansas City, Mo.

Jennings, Hillory, 619 Beech St., Little Rock, Ark.
Jones, James H., Corp., 430 S. Green St., Chicago, Ill.

Kelsey Press Co., The, Meriden, Conn.

Lavery, Chas., 69 E. Long St., Columbus, O.
Lawson, E. P., Co., Inc., 424 W. 33rd St., New York, N. Y.
Lindner, E. G., Co., 419 Wall St., Los Angeles, Calif.
Linotype Maintenance Co., 237 Lafayette St., New York, N. Y. 144

Martin Machinery Corp., 136 Liberty St., New York, N. Y.
Mason Moore Tracy, Inc., 28 E. Fourth St., New York, N. Y.

Mid-West Printers Machine Works, 610 Federal St., Chicago, Ill.
Midwest Printers Supply, Inc., 139 E. Third St., Cincinnati, O.
Miles Machinery Co., 18 E. 16th St., New York, N. Y.
Milwaukee Printers Roller Co., 422 S. Fourth St., Milwaukee, Wis.
Missouri-Central Type Foundry, 703-709 E. Murdock Ave., Wichita, Kans.
Model Press Co., York, Pa.
Myers, E. G., Santa Fe Bldg., Dallas, Texas.

Newspaper Publishers Supply Co., 1639 N. Lorel Ave., Chicago, Ill. 160
Nissenbaum, Irving, Inc., 114 W. 27th St., New York, N. Y.

Omaha Printers Supply Co., 1122 Harney St., Omaha, Neb.
Ortleb Machinery Co., 3818 Laclede St., St. Louis, Mo.

Pabich, W. R., Mfg. Co., 2855 N. Rockwell St., Chicago, Ill. 161
Pacific Printers Supply Co., Inc., 1220 S. Maple Ave., Los Angeles, Calif.
Pacific Typesetting & Type Foundry Co., 442 Sansome St., San Francisco, Calif.
Parry, S. R., 224 Mill St., Rochester, N. Y.
Patchen & Hoefler, 40 Aqueduct St., Rochester, N. Y.
Pavyer Printing Machine Works, 600 S. Broadway, St. St. Louis, Mo.
Photoengravers Supply Co., 716 W. Indiana Ave., Philadelphia, Pa.
Printers' Equipment Mfg. Co., 1408 Adams St., Toledo, O. 160
Printers Machinery & Supply Co., 533 W. Congress St., Detroit, Mich.
Printers' Service, 355 Pearl St., New York, N. Y.
Printers Supply Service, 719 S. Dearborn St., Chicago, Ill.
Printers Trading Post, The, 606 Broadway, Kansas City, Mo.
Printing Press Parts & Supplies, Inc., 225 High St., Boston Mass.

Reid, William, & Co., 2271 Clybourn Ave., Chicago, Ill. 158

Schroeter, J. H., & Bro., Inc., 223 Central Ave., S. W., Atlanta, Ga.
Smith, Francis X., Co., 952 E. 93rd St., Brooklyn, N. Y.
Southeastern Printers Supply Co., 267 Trinity Ave., S. W., Atlanta, Ga.
Standard Process Corp., 734 W. Lexington St., Chicago, Ill.
Stephens, Samuel & Wickersham, Quoin Co., 174 High St., Fort Hill Square, Boston, Mass.
Stevens, F. H., Type Co., 24 N. Union St., East Somerville, Mass.
Stewart, Don, Co., 423 Sacramento St., San Francisco, Calif.
Stolp-Gore Co., 710 W. Jackson Blvd., Chicago, Ill.

Thornton, Seth & Co., 606 Broadway, Kansas City, Mo.
Tompkins Printing Equipment Co., 705 S. Dearborn St., Chicago, Ill.
Toronto Type Foundry Co., Ltd., Toronto, Canada.
Turner Type Founders Co., The, 1729 E. 22nd St., Cleveland, O.
Type and Press of Illinois, 632 Sherman St., Chicago, Ill

Walker, E. H., Supply Co., 926 H St., Washington, D. C. 161
Western Roller & Machinery Co., 1716 Arapahoe St., Denver, Colo.

Ziegler, Robert & Son Machine Co., 210 Vine St., St. Louis, Mo.

8G Paraffining, Varnishing and Waxing Equipment and Supplies

Chambers Brothers Co., 52nd and Media Sts., Philadelphia, Pa.

Embossograph Process Co., Inc., 251 William St., New York, N. Y.—8G2.

Hollingsworth, William, Machine Co., 227 Holliday St. Baltimore, Md.—8G2.
Hooper, F. X., Co., Inc., Glen Arm, Md.—8G1, 8G2, 8G3.

Ideal Roller & Mfg. Co., 2512 W. 24th St., Chicago, Ill. 69
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Miles Machinery Co., 18 E. 16th St., New York, N. Y.—8G1, 8G2, 8G3.

Potdevin Machine Co., 1220 38th St., Brooklyn, N. Y.

Wagner, Chas., Litho Machinery Co., 51 Park Ave., Hoboken, N. J.—8G1, 8G2, 8G3.

8H Silk Screen Equipment

Brown-Lindsay Paint Co., 1420-44 Center St., Chicago, Ill.

Nar-Dar Co., 4014 N. Rockwell St., Chicago, Ill.

Selectasine Patents Co., 558 Sacramento St., San Francisco, Calif.

8J Time Clocks, Recorders

Amthor Testing Instrument Co., Inc., 317 Johnson St., Brooklyn, N. Y.

Automatic Time Stamp Co., 139 Atlantic Ave., Boston, Mass.

Bristol Co., The, Waterbury, Conn.

Cincinnati Time Recorder Co., The, 1733 Central Ave., Cincinnati, O.

Esterline-Angus Co., The, P. O. Box 596, Indianapolis, Ind.

Joslin, A. D., Mfg. Co., Manistee, Mich.

Kastens, Henry, 418 W. 27th St., New York, N. Y.

Partlow Corp., The, 2 Campion Road, New Hartford, N. Y.

Practical Instrument Co., 2717 N. Ashland Ave., Chicago, Ill.

Production Instrument Co., 1325 S. Wabash Ave., Chicago, Ill.

Simplex Time Recorder Co., Gardner, Mass.

Stromberg Electric Co., 223 W. Erie St., Chicago, Ill.

Tork Clock Co., Mt. Vernon, N. Y.

Veeder-Root, Inc., 25 Sargeant St., Hartford, Conn.

8K Vibration Eliminating Equipment

Cork Insulation Co., Inc., 155 E. 44th St., New York, N. Y.

Goodrich, B. F., Rubber Co., 434 S. Main St., Akron, O. **10**

Korfund Co., The, 4815 32nd Place, Long Island City, N. Y.

8L Waste Paper Balers

American Type Founders, 200 Elmora Ave., Elizabeth, N. J. **82-ABCD**

Business Men's Paper Press Co., Wayland, Mich.

Economy Baler Co., Ann Arbor, Mich.

Logemann Bro., Co., 3154 W. Burleigh St., Milwaukee, Wis.

Minnich Machine Works, Landisville, Pa.

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Rapid Drying of Inks on Traveling Webs, 62, Nov.
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Staff Writer: Air Conditioning Installation Gives Efficient Production Control, 24, Feb.
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Color Determination Reduced to Black and White Graph Curves, 22, Oct.
Deputy Elected Chairman of T.O. Mechanical Conference, 25, May.
Floods Cause Extraordinary Reconditioning Work in Plant of Pittsburgh *Press*, 9, April.
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Oilgear Transmissions Operate Roll-Fed Presses, 14, Aug.
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Zinc-Thick Stereotype Plates Used for Angular Insets, Staff Writer, 42, May.
Stevens, B. D.: When Is A Printing Press Registering In Proper Manner, 22, Sept.
Stiles, George R.: Small Cap Composition Suggestion, 38, March.
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Train Housing Mechanical Exhibit Will Cover 16,000 Mile Schedule, Staff Writer, 29, Sept.
Tranter, Reginald R.: Photoprint for Newspaper Advertising Composition, 7, Jan.
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Vibration of Line-Casting Machines Isolated at New Orleans *Times-Picayune*, 22, March.

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Walmsley, W. R.: Folding Boxes, Discussion of Technique Used in Production of Containers, 15, Feb.
Westerbrook, Francis A.: Paper Conditioners of Prime Importance to Printing Plants Doing Color Work, 24, March.
Wever, W. W.: Type Cast Both from Monotype and Ludlow Matrices on Giant Caster, 20, April.
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Willis, L. W.: Low Quad Feature With Automatic Double Indention Announced by Intertype, 10, April.
Winkler, J. Homer and Ralph H. Schwarz: Electros Treated By Hardening Method Shown To Be Of Practical Use, 9, June.
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Drying Inks

(*Continued from Page 84*)

Research specialists from the General Electric Laboratories, retained for the improvement of the ozone generating equipment, succeeded in developing for us a compact, highly efficient apparatus which made ozone having a concentration 60% higher than had been used. But the ozone process was still a costly method of drying, and subject to too many uncertainties.

Experiments With Electrical Discharge

Meantime we experimented with an electrical discharge device, passing high-tension charges through the moving web and making use of the oxidizing and polymerizing power of nascent oxygen. Chinawood oil ink was again used, with the disadvantages already mentioned. The breakage of the neon tubes used for the generation of the electrical discharge, was another source of delay and cost. The use of high-voltage current on the press was also objectionable.

Concurrently, with the collaboration of the manufacturer supplying us with a large quantity of our ink, we were working on the method which Mr. Duhring has described. Having accomplished the objective of first-side drying with ozone, we believed that it should be possible to dry ink by evaporation. Steps in this development included: The use of two 30-in. low-pressure cylinders. Two of these presses have been in continuous active use since they were equipped. Gas burners were used, but were not suited to our particular needs, because of frequent fires; the tendency to overheat the ink, leaving the finished product with an over-cooked appearance, and lacking the usual lustre; and the high operating cost. Radiant electrical heaters, enclosed in a steel box through which the web passes. Re-circulating fans are used to conserve the heat. Reasonably satisfactory, although considerably higher in operating cost than steam.

Development of the Steam Drum

The development of a special design of steel drum, 60 in. diam. capable of carrying 100 lbs. steam pressure, and having its surface ground under working steam pressure to a diameter tolerance of plus or minus 5/1000 in. This accuracy, with the provision of a positive drive for the cylinder, insures exact synchronization of surface speed with that of the printing units.

The perfection of two-stage controlled cooling, to deliver the web to the second-side printing unit at the proper temperature, and to reduce water consumption.

Some of the advantages of this drying method are: (a) Improved readability of text matter. The blotting and smearing of first-side ink by the offset web follows the pattern of the second-side print, being negligible or pronounced as the four-color subject is light or heavy; (b) Full color on first side. None of this ink is lost by smearing or blotting; (c) Uniformity of quality; (d) Reproduction of light screen areas. A first-side subject carrying light screen areas, such as flesh tones, is particularly benefited, because of the sharp, clean printing; (e) Elimination of McKee backup. It is not necessary to print the second side as a separate operation, where heavy black or two-color subjects occur on the first side; (f) Improved brilliance. There is less penetration of ink into the paper, and no dry-back, and (g) The printing web travels directly against hard top-sheeting on the lower impression cylinder, without the interposition of the softer offset web.

Remaining Problems

We have 37 of these units in full three-shift production, and we have already ordered equipment for additional presses.

Remaining problems presented by the new method: (1) Higher waste due to increased web lead; (2) Further improvements of the method to attain maximum press speeds, and (3) Application to other existing types of presses.

5 THINGS TO REMEMBER

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SPIRAL is NOT a trick binding. It is not just something different"—to catch the eye and then pass into the obscurity of yesterday's novelties. SPIRAL is fundamental! After eight years of steadily increasing sales, it is today recognized, the world over, as a STANDARD form of binding. Because SPIRAL was invented to fill a definite need! It is adaptable to the greatest range of binding purposes! Its beauty and simplicity came about incidentally.

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LOOSE-LEAF wire binding (KAMKET) is the latest achievement to be introduced by the pioneers of wire binding in America. Having the appearance and all the advantages of permanent wire binding, PLUS THE LOOSE-LEAF FEATURE, KAMKET is without equal as a binding for catalogs, art books and portfolios, presentations and other books that require adding, removing or interchanging of pages. It is the most modern and most INEXPENSIVE loose-leaf binding known.

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Automatic Press Lubrication

By STAFF WRITER

In Which is Explained Cost Reducing Features of An Automatic Oiling Equipment —Hidden Implications of Faulty Oiling Enumerated.

THE FOLLOWING incident, reported as an actual happening, has an obvious appeal to the cost analyst, as well as having a direct bearing on shop practice and engineering design. An observing printing plant executive boarded the Printers' Progress Special train, during its stop in the railroad station of an Eastern city. He made a deliberate passage through the coaches exhibiting modern production equipment utilized in the Graphic Arts Industries, until he arrived at a new printing press. The press was being demonstrated to a group of visitors seated in the miniature amphitheatre.

"This," announced the demonstrator, "is the first press to start in the morning." He explained: "It is equipped with an automatic lubricating system. No time out for oiling."

The printing plant executive pondered this feature. Afterward, while chatting with the demonstrator, he remarked:

"If I could add, say, thirty minutes a day to my press running time, I figure that I could save close to $500 a year."

Strong proof of the present tendency toward dragging hidden costs into the open, is offered by today's steady growth in the use of automatic lubricating systems as standard equipment for printing machinery.

In the past oiling has been considered a non-productive but inescapable item of constant expense. But now this cost item is being examined with scrupulous care, to determine all its hidden implications: Neglected bearings, freeze-ups, siezures, shutdowns for more or less costly repairs, production and delivery schedules disorganized, output lessened, increased maintenance costs, decreased machine accuracy and efficiency, faster rate of depreciation on machinery, loss upon investment. Faulty lubrication methods. Waste of oil, excessive oil that spoils work, by direct contact or transfer. Operator's time spent on oiling and adjustments—time that could more profitably be concentrated upon his work. Accident hazards. Surreptitious oiling while machinery is in motion and floors slippery from oil drip.

These and other "hidden" items conceivably have been an important factor in inducing a modernization of lubrication methods, to meet the needs of modern high-speed machines.

A properly-designed automatic lubricating system, it is claimed, readily pays for itself in use and in good will established. It has been found adaptable to virtually all types of machinery, and has the flexibility that enables it to lubricate efficiently a hundred bearings as easily as one, on any machine.

FLEX

DRY MATS

For better dry mat performance, and particularly for better reproduction of halftone and Ben Day screens, try FLEX dry mats. FLEX dry mats will, we believe, enable you to turn out better, more uniform plates, in less time and with less trouble.

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FLEXIDEAL DRY MAT COMPANY • 21 WEST STREET, NEW YORK

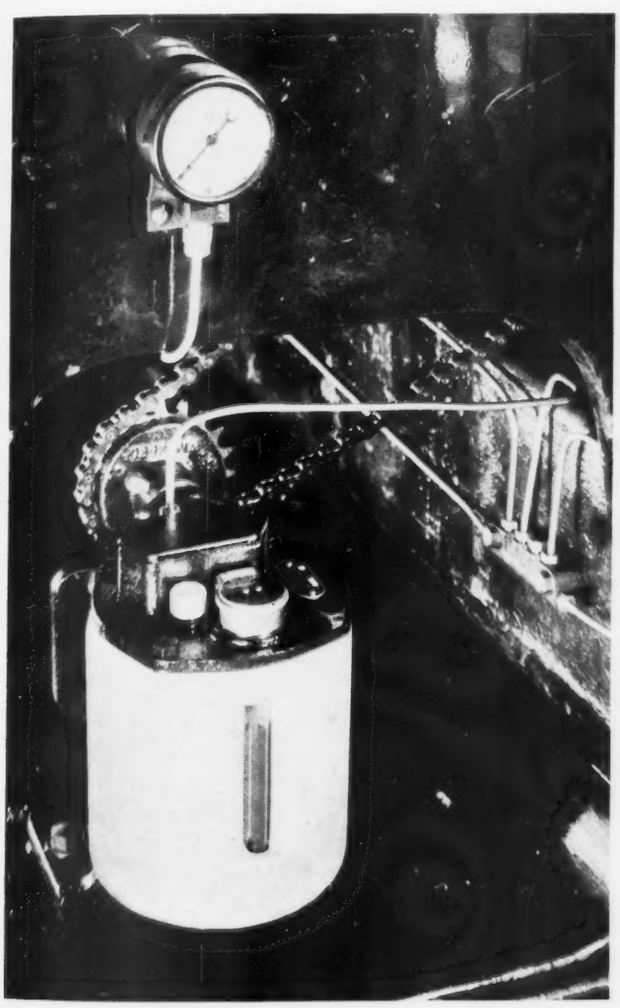
Modern lubrication requirements emphasize the need for automatic force feed, the positive control and self-regulating of oil distribution, and the automatic metering of the correct oil film to each individual bearing.

Such an automatic, built-in system includes lubricator pump and oil reservoir—the latter often cast integral with the machine; a single main feed line of tubing and a separate metering-unit for each bearing.

Pump and reservoir may be installed at any level on the machine. Lubricator pumps are of various types: driven from the machine by rotating shaft, cam-eccentric or reciprocating motion or by other means. Operation may be continuous or on any desired cycle. The feed pressure automatically changes to compensate for changes in operating conditions, temperature fluctuations and oil viscosity.

The oil is filtered before entering the distribution line which, with its branches, consists of small-diameter tubing.

The metering-units are installed in the main feed line or at branch junctions. Each non-adjustable metering-unit (permanently set for a predetermined flow rate) automatically meters during the pressure period the correct oil film for its individual bearing, whatever the type, speed or load of that bearing. When the pressure drops a check valve in the metering-unit closes thereby preventing reverse flow, drip or drainage. In this closed system, the feed line is maintained full of oil, even when



Bijur Lubricator Pump and Reservoir unit of the Bijur Automatic Lubricating System, which is standard equipment on the 17 in. by 22 in. Kelly Press. This Type A "High Pressure" Pump is driven from one of the press shafts by means of a roller chain, and operates on a cam-controlled cycle.

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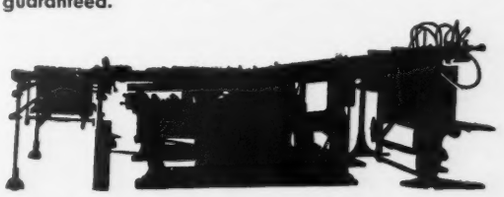
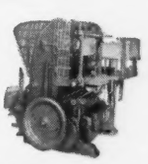
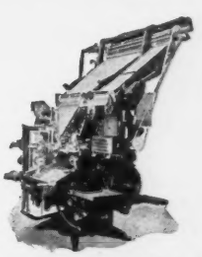


Babcock No. 5 Automatic Unit—New—ask about trade-in deal.



Rebuilt Miehle Vertical, an amazing value!



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The new Challenge Style "E" Heavy Duty Paper Drill.

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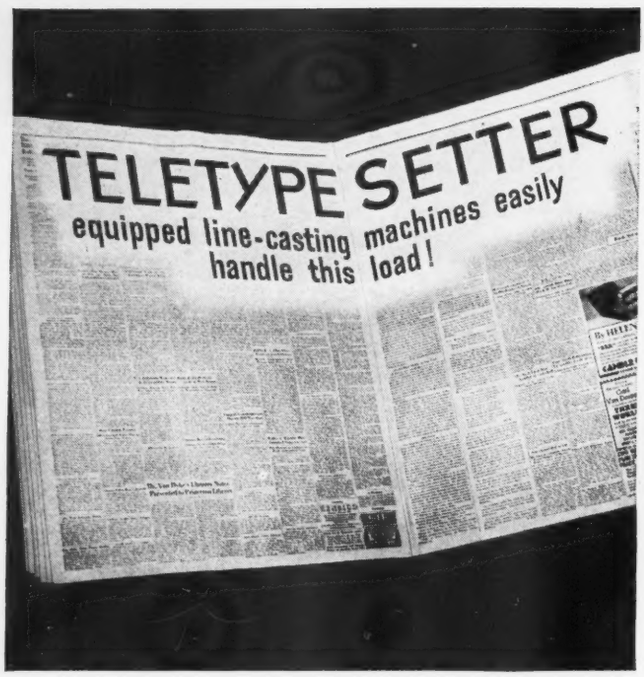


USERS of Teletypesetter report that it can be relied on to cut the cost of straight matter composition approximately in half.

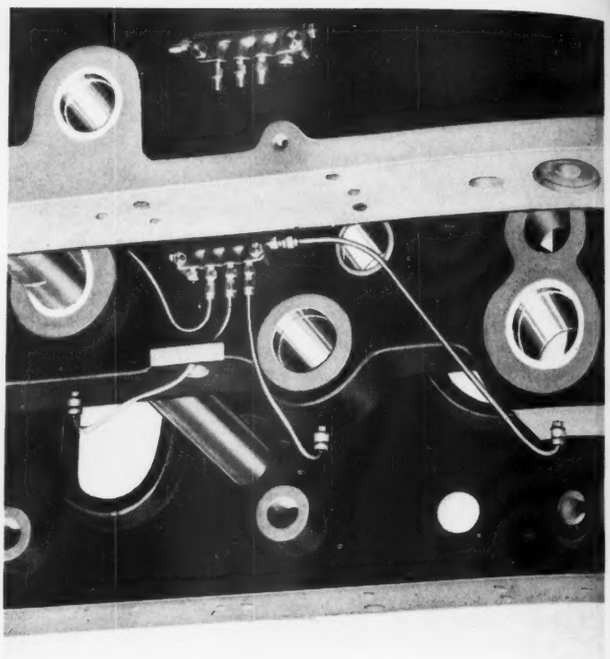
Operator outputs from 80% to 100% above manual operator outputs can be expected from operators proficient in the typewriter touch system after relatively short training periods. Plant production records show many line-casting machines producing consistent averages of 350 to 380 lines per hour.

THIS BULLETIN TELLS YOU HOW

This Bulletin gives you full details on how to get out a bigger, better paper—without having your production costs go up. Write for it.

TELETYPESETTER CORPORATION — 1400 Wrightwood Avenue, Chicago, Ill.

TELETYPESETTER



Showing a branch junction on the oil feed line and some of the Bijur Meter-Units which automatically meter the oil film to the bearings on the Bijur-equipped 17 in. by 22 in. Kelly Press.

the machine is stopped. There is no lag in lubrication when the machine starts up again and no danger of dry bearings.

NEW SCRIPT FACES

Legibility and a flowing design are combined in the new Kaufmann Script and Kaufmann Bold which American Type Founders are offering. Credit for an original, freely handled design goes to M. R. Kaufmann, a member of the art department of *McCall's* Magazine.

Kaufmann Script

Kaufmann Bold

The cutting and casting have maintained the artist's purpose and produced closely fitting faces. Both Kaufmann Script and Kaufmann Bold are available in sizes ranging from 18 to 96 point, the latter being cast on a 72 point body to permit closer spacing of lines in which there are no descenders.

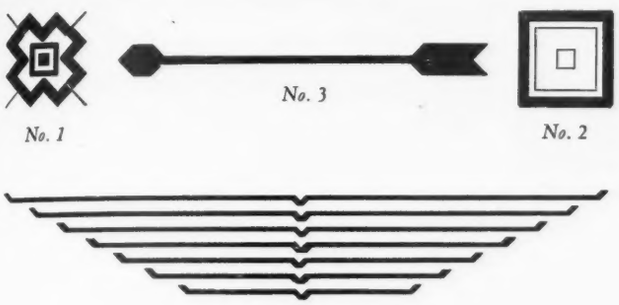
STUDENT ESSAY CONTEST

Letters have been sent to teachers and principals in 1,200 high and technical schools in the United States and Canada offering printing courses inviting them to have their students participate in The International Printing Ink Corporation's essay contest in color. Entrants must write a 600 word essay on the subject, "The Importance of Color Printing."

Prizes in the contest are divided into two groups, local and national. In each school participating, three ten dollar sets of the books, "Three Monographs on Color" will be awarded to authors of the three best essays submitted. Then one best paper from each school is to be forwarded to the National Graphic Arts Education Guild in Washington to be entered in a national competition. An impartial commission of judges will pick the two best papers. The winner will receive a $400 scholarship to the Carnegie Institute of Technology's School of Printing and a trip to New York City. After he finishes his course of training, a job which fits his interests and capabilities will be found for him in the IPI organization. The runner-up gets a trip to New York.

Making "Doo-Dads"

WILLIAM J. KNOLL, aboard the Printers Progress Special in Cleveland, demonstrated the Rouse Rotary Mitreing Machine to train guests. Since the average compositor likes to exercise his ingenuity in creating things for typographic effects, a short description about Mr. Knoll's technique may be of interest. The Rouse rotary mitreing machine, besides being used for mine-run mitreing and border effects in the composing room, can be utilized for making many kinds of doo-dads not at hand in cases from composing machine strip material with miminum expenditure of productive time. While making the various elements shown, Mr. Knoll explained he didn't pretend to say that all of the specimens have not been made by compositors generally in composing rooms equipped with rotary mitreing machines, but there may be one or more which will be useful to those who have devised doo-dads for certain purposes.



No. 1 *No. 3* *No. 2*

No. 4

In No. 1, the outside of the square was cut from 12-pt. line-slug metal border, cut at 3-em intervals. Since the cutting wheel does not quite sever the border stock, the formation and handling of the square is easy, the slightly uncut part of the border between the section serving as a hinge. The 12-pt. center set into the 36-pt. square was cut from 6-pt. parallel border.

No. 2 square was cut from 6-pt. face Oxford rule on 12-pt. body. The inserted square was cut from hair-line face rule cast on 6-pt. body.

No. 3—This arrow was made from two pieces of 6-pt. black-face border. The ends were mitered in the usual manner. The arrow shaft between the arrow head and "tail feathers" was cut by adjusting the cutter wheel depth limit stop screw to a position which only permits the cutter to "nibble" off the printing surface of the border, which in this instance is approximately 1½ ems deep. While the revolving cutter lever is held down against the stop screw with one hand, the arrow section is slid along the gauge with the other hand for the length of the cut desired.

No. 4—These braces were cut from 6-pt. black-face rule. The procedure for cutting the rule is the same for each length. First, the ends are mitered from 6-pt. black-face rule in the usual manner. The gauge is then set so that when the rule is butted against it, the cutter will cut a V-notch exactly in the center. The depth of cut is regulated by the thickness of the printing surface of the brace. The depth gauge is then set to cut away all of the printing surface of the border except that portion which is to form the brace itself. The method of "nibbling out" the metal is the same as is used in making the arrow described above.

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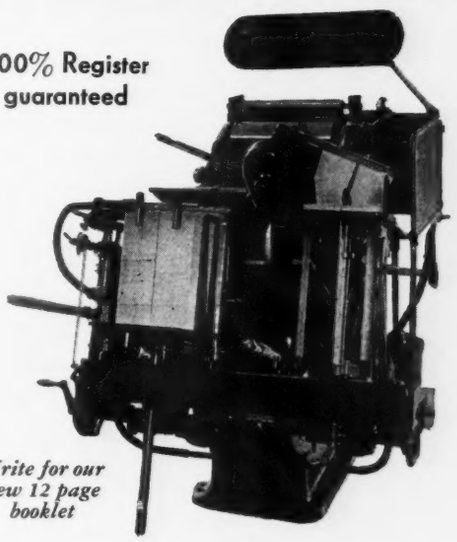

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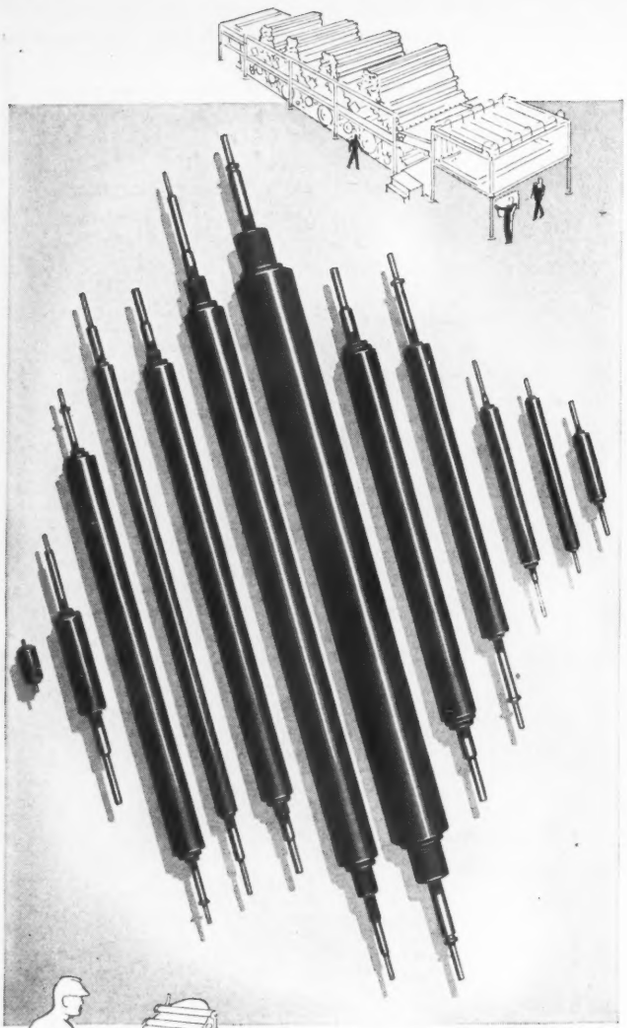

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Precision Printing

By H. W. HACKER*

What does it mean? What does it hold for the cylinder press printer?

FIRST, let us clear the ground by pointing out that it is not necessary to scrap present cylinder presses and go rotary in order to participate in the benefits of precision printing. That may be one avenue, but it is no answer for those who lack capital for so heavy an investment or those who lack markets for such long-run production.

There is another road to precision printing which is close at home, which uses present equipment, and which is adapted to the short-run business that supports a majority of printing plants. This road is via *inspection* and it is the purpose of this paper to set forth the possibilities in modern inspection methods.

The situation arises out of the high cost of makeready. The ratio between makeready time and running time may vary widely in different plants, or in different classes of work, but it persists generally as a highly stubborn barrier to production. Makeready is the lock. Precision printing is the key. Unlocking this door will liberate letterpress. It can be done.

When a form goes to press and the first proof is pulled, our story is told. Indeed it is the whole story if we know how to interpret it. What is wrong with this first sheet? Why is it not ready to run? Upon investigation we find:

(1) Defective Type:

Slugs, letters, rule too high or too low, the commonest fault being too high—all of which cause makeready. There is no valid reason why such defects should ever reach the press. Precision Printing would locate them in advance and correct them at the source. The required tools are a precision test press for mass inspection of takes and a type gauge for individual measurement *and* a systematic routine of examination and checks. Such a system will eliminate makeready caused by defective type.

(2) Defective Plates:

Plates (mounted or unmounted) too high, too low or uneven; plates with hard edges or sinks—causing makeready. There is no legitimate reason why such defects should ever reach the press. Precision Printing would locate all these inaccuracies in advance and have them corrected in advance. The required tools are a plate gauge, a planer, and a precision test press *plus* a systematic method of doing the work. Such a system will eliminate makeready caused by defective plates.

(3) Defective Bases:

Bases too high or too low—errors rarely found on new base, almost universal on old base—causing makeready. There is no excuse whatever for the existence of such defects of impression. Precision Printing would measure all bases in the plant, once, and discard the inaccurate ones. The required tools are a plate gauge *and* a systematic check.

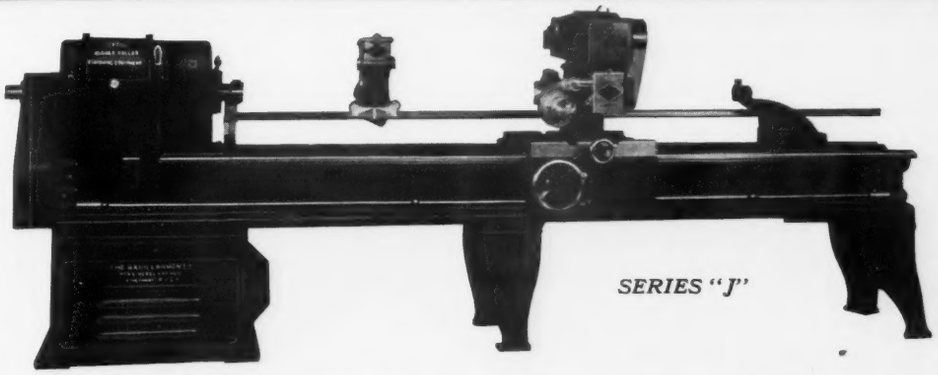
(4) Defective Presses:

Uneven impression—rarely found on new presses, almost universal on old presses in the middle and larger sizes—low spots caused by accident or wear cause makeready. There is no justification for the continued use of presses with inaccurate impression. Precision Printing would have presses thoroughly serviced, inspected, and corrected to uniform impression. The required tools, after mechanical servicing, are precision test blocks, permanent press correction makeready *and* a systematic plan of operations.

(5) Defective Line-Up:

Inaccurate position necessitating opening form, moving pages by trial and error, repeated proofing cause press delay. There is no acceptable reason for persisting with such handcraft methods

*President, Hacker Manufacturing Co., Chicago, Ill.



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Cecil equipment is giving top notch satisfaction in many leading newspapers of this and other countries. This equipment is accurate, economical and easy to operate.

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NATION-WIDE RAIL-AIR SERVICE

in this day and age. Precision Printing would position form units in accurate alignment in the original assembly on the stone. The required tools are a lock-up gauge *and* a systematic routine by stonemen.

(6) Defective Register:

Inaccurate position, necessitating numerous trial and error shifts cause press delays. There is no good excuse for fumbling around to find register in this era of exactness. Precision Printing would lock up color plates in register during original assembly on bank and stone. The required tools are make-up gauge and lock-up gauge *and* a systematic procedure.

(7) Miscellaneous Defects:

Damaged plates, plates out of register, bad color match, ink and paper conflicts, etc., all cause press delays. There is no possible excuse for permitting such defects to reach the press. Precision Printing would be on guard and inspect for all these risks *before* going to press. The required tools are a precision test press, incidental tools for repairing plates *and* a systematic plan of action.

There is the whole story of precision printing by cylinder press. These seven points cover the field. Incidental details work out under the same methods. There is neither mystery in understanding it nor difficulty in practicing it. It is as simple as A B C. In point of fact it is the A B C of measurement and that is all it is.

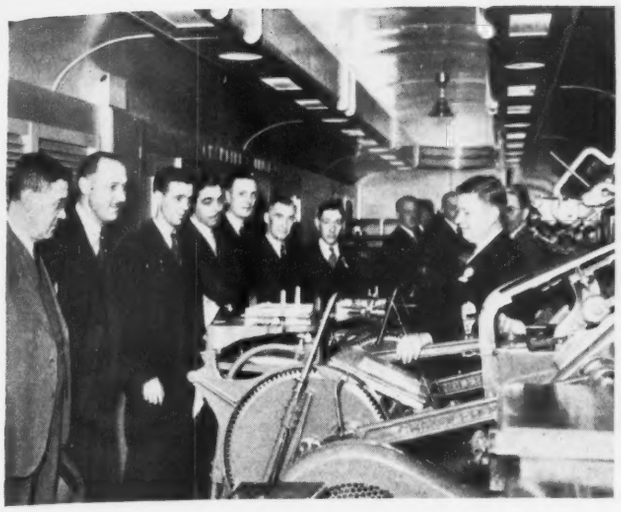
Some of these measures, such as accurate make-up and lock-up, are handled (with new tools) as regular steps in production. Others, such as checking bases and correcting presses is a form of periodic maintenance. Still others, such as plate inspection, correction and repairs, ink testing, proofing, etc., are done in the inspection department which every plant should have. Finally, as with type and plates, they go back to the source with standards and tolerances. In all cases the plan establishes controls to prevent these dimensional errors from reaching the press.

It will be seen from the foregoing summary that there is no shotgun prescription to cure the disease of excessive makeready. There is no equipment which an executive can buy and then dismiss the subject thinking that he has licked makeready. It calls for unit inspection of each element, taking one at a time and in its proper place. And it calls for an organized systematic plan of operations. Well thought out direction by the chief operating executive is by far the most important of all the factors.

The principal activity of printing is manufacture—not design. Letterpress is threatened because it runs in the groove of the graphic art tradition and lacks the manufacturing outlook. Profit, in a competitive world, depends upon the use of every modern device to lower manufacturing costs. Lower cost is the end result of these modern production methods which we are calling Precision Printing.

Let no one assume that precision printing will eliminate makeready. Neither in the present state of the art nor in any future now visible can makeready be wholly eliminated. As long as it takes pressure to print letterpress (and it does take pressure) and as long as cylinder packing is elastic, as it must be, there will be need for some makeready. This is no place to discuss the technical point. It involves rather obscure factors of bear-off and the infinite variables in plates and paper.

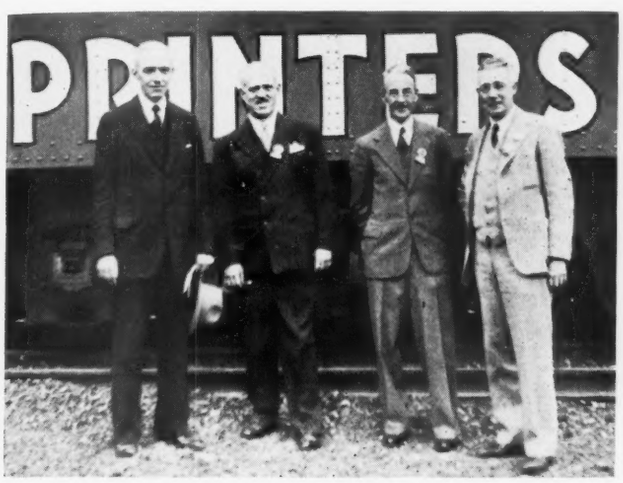
Every pressman of experience knows that his greatest grief comes from inaccuracies of dimension and that with accurate forms and accurate presses the necessary remaining makeready is a very short and simple operation. The object of precision printing is to reduce makeready to a short and simple operation.



CHANDLER & PRICE EXHIBIT ON THE SPECIAL

Printing executives and equipment men watch demonstration of 12 in. by 18 in. Craftsman Printing Press in one of the cars of the Printers Progress Special at the time of its visit to Cleveland the first part of October. The Chandler & Price exhibit was comprised of one 10 in. by 15 in. and one 12 in. by 18 in. Craftsman Automatic Presses with Rice Feeders; one 26½ in. Buckeye Lever Paper Cutter; one 34½ in. Craftsman Power Cutter and one 39 in. Automatic Power Cutter.

Frank Novy, Cleveland manager for ATF, stated that 774 printing executives registered during the visit of the train in Cleveland.



At the time of the visit of the Printers Progress Special in Cleveland on Tuesday, October 6, approximately 800 printers and printing executives viewed the many exhibits housed within the train. The Chandler & Price exhibit attracted considerable attention. Shown here are some of the Chandler & Price executives standing alongside the car containing the C. & P. equipment exhibit. Left to right they are as follows: R. S. Tyler, Works Manager; F. D. McLaughlin Production Manager; J. E. Wilkinson, Secretary, and J. W. Kirkpatrick, Manager of Sales.

SILVERSHEEN

A new development in printing inks which is called "Silversheen," has been announced by the Advertisers' Research Bureau of the Sigmund Ullman Company, Div. General Printing Ink Corp. It is said that Silversheen combines the warmth of color with the lustrous sheen of metal and offers possibilities to the creative printer for obtaining unusual and striking effects. Specimen sheets illustrating the various colors will be sent to any mechanical executive upon request.

SAILS FOR EUROPE

C. H. Griffith, vice-president in charge of typographic development with the Mergenthaler Linotype Company, sailed for Europe October 17, aboard the S.S. *Brittanic*. Mr. Griffith will confer on typographic matters with officials of affiliated companies and with leading printers and designers in England, Germany, France, Holland and Belgium. He will be away about two months.

Prices in the U. S. and Canada

50c per large tube; $5 per dozen tubes; $4 per dozen tubes in gross lots.

Stand-A-Lone Holders 2 for 25c, $1 per doz.

The Stereotype Superintendent

will appreciate having cuts located on bases in proper position before molding his mats. This can be accomplished in the composing room by using Booth's Zink Cut Cement to fasten each cut in just the right place on its base as specified by the advertiser.

Resiliency

is a quality which must be included in the line-casting keyboard rubber rolls you buy—if you expect to obtain reliable cam action. Booth's Green Rubber Keyboard Rolls working in conjunction with properly cleaned and oiled cams insure reliable cam action when the operator depresses the keybuttons.

Crepe Finish or Corrugated Tread—$1.30 per pair; $7 per dozen; 55c each in lots of 100.

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900 West 18th St.

E. W. BLATCHFORD CO.

NEW YORK
63 Park Row

Insetting Cuts

By HOWARD F. LAMADE*

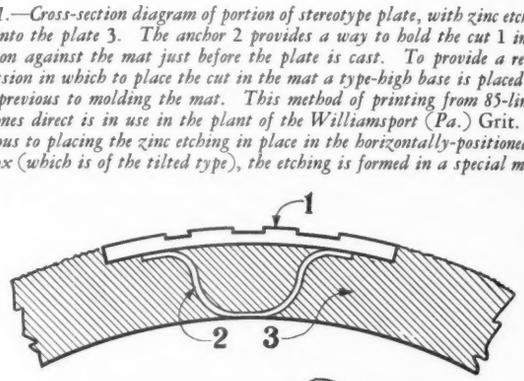
Zinc cuts fastened to stereotype curved plates for halftone printing.

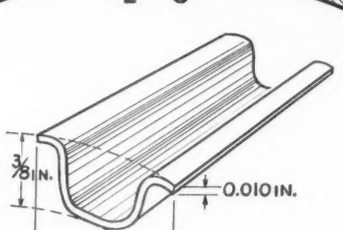
GRIT early recognized the news value of illustration. As a matter of fact its first issue, December 16, 1882, contained a wood block print of a local horse-drawn street car. Chalk plates followed wood block engravings, and then came halftone etchings. From that time on illustrations have received as careful attention as has the news.

In the development of the halftone process it was soon found that *Grit's* problem was to find a way to give the greatest detail in the smallest possible space. This led to much experimentation and the conclusion that 85-line halftones reached newspaper reproduction limits. Then came the problem of finding the best way to print them.

Direct stereotyping was not satisfactory to us. Then it was learned that someone on the Pacific coast had found a way to anchor etchings in the stereotype plate. This was a new thought. Starting with such information as could be gathered, *Grit* progressed through the known methods of using plugs, corks, screws and blocks and gradually worked to the present method which has been materially unchanged for a long time.

Fig. 1.—Cross-section diagram of portion of stereotype plate, with zinc etching 1, cast into the plate 3. The anchor 2 provides a way to hold the cut 1 in exact position against the mat just before the plate is cast. To provide a recess or depression in which to place the cut in the mat a type-high base is placed in the form previous to molding the mat. This method of printing from 85-line zinc halftones direct is in use in the plant of the Williamsport (Pa.) Grit. *Previous to placing the zinc etching in place in the horizontally-positioned casting box (which is of the tilted type), the etching is formed in a special machine*





so that it will conform to the curvature of the finished stereotype plate. After the etching is curved, a tin anchor (one of which is shown at 2) is soldered to the back of the cut. One anchor is sufficient to hold a half-column cut in place in the casting box as well as to prevent the cut from flying loose while printing from the stereotype plate on the press. In the case of large cuts, several anchors are soldered to the bases. The anchors are also of sufficient length to extend the full width of the cut.

Fig. 2.—Diagrammatical view of anchor used to hold zinc etchings in stereotype plates in plant of the Williamsport (Pa.) Grit. *The anchors are soldered to the back of cuts (as shown in Fig. 1) after the cuts have been given the same curvature as stereotype plates. According to the depth of cuts there may be more than one anchor side by side (after the manner of corrugations in packing board) and extending the full width of the cut up to a maximum width of three columns.*

*Business Manager, Williamsport (Pa.) *Grit*.

The BIG WORD
in Plate Mounting

Blatchford BASE

E. W. BLATCHFORD COMPANY · REPUTATION · EST'B 1854 INCO. 1890 · A TOWER of STRENGTH

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E. W. BLATCHFORD CO.

NEW YORK
63 Park Row

To start the process, all etchings are made in sets of four, that is, one for each of the two plates on the press, and one for each of the two plates used for changes, corrections, etc. These etchings are sent in advance to the stereotype department where they are bent to the exact curvature of the plate in a homemade bending machine. It is important that the curvature be exact and great care is used in this operation.

In the meantime, a metal base is made for each etching, which base is placed in the form in its proper location. For odd-shaped groups, two or three-column groups and the like, the same procedure must be followed. This base which is exactly type high, is made slightly larger than the etching, to allow for mat shrinkage.

When the mat is molded a smooth indentation in the mat appears in place of a stereotype halftone, this sunken area is molded to the depth of the type and of the same size as the cut to be inserted. The mat is placed in the casting box as usual. The older style box that tips over before the lid is opened is used as the inserts must be placed in position while the matrix is in a horizontal position.

The etchings, having been bent to the proper curvature, are now backed up with special anchor plates to hold them in the plate. These anchors are pressed from tin plate with a special die so that they resemble in cross section a capital letter U with shoulders on the open ends. They are made in length from a half-column to three columns to take care of any size cut. The application is by soldering them, edge to edge, on the back of the etching, open side to the zinc, so that the finished appearance is much like the rough side of corrugated packing board. The thickness of these tin anchors is such as to cause a pinch between the lid of the box and the matrix when the lid is lowered.

The prepared etchings are now placed face down on the mat, in the respective indentations made for them. The lid is closed on the casting box, tightly pressing the etchings to the matrix, and the box raised to casting position. The plate is poured in the regular way and then removed for the finishing process. The tin anchors, in position parallel to the length of the plate, or across the printed page, have allowed the stereotype metal to run through and around them, firmly holding the etching to the face of the plate.

A certain amount of hand tooling is necessary on the finished plate to remove any slight imperfections of the cast around the etchings, but otherwise the plate is now ready for the press.

This operation, perhaps seems complicated on paper, but in actual practice it is rather simple. The drawbacks are: (1) The time necessary to make the plates; (2) The necessity for making four etchings in place of one; (3) The disturbance caused the metal formula by the solder used and (4) The occasional loss of a zinc cut. We believe all these are offset by the better printing results secured from the inserted etchings.

INCREASED ENROLLMENT

A substantial increase in enrollment, reflecting improved business conditions, is reported by the Department of Printing at the Carnegie Institute of Technology following the opening of classes. The largest rise occurred in the Evening School which is attended largely by students who earn their living during the day in printing houses in the district. In the day course, which has the distinction of being the only curriculum in printing which leads to a college degree, sixty-eight students are enrolled. The courses in typography, machine composition, presswork and layout and design, all of which are given in the Evening School, are being attended by 110 students, an increase of twenty over last year.

ELECTED
on a
SOUND PLATFORM

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ZOMO ELECTRIC ZINC

Patents

September—October

Bookbinding:

2,054,167. BOOK FOLDING MACHINE. Wellington George Reynolds and Gustave Schubach, Holyoke, Mass., assignors to The Reynolds Manufacturing Company, Holyoke, Mass., a corporation of Massachusetts. Application January 8, 1935, Serial No. 840 8 Claims. (Cl. 270—83.)

1. In combination, in a book folding machine, a frame member, a table on the frame formed with a slot, a plurality of conveyor members on which the leaves of a book to be folded are placed, means for operating the conveyor members for transferring the leaves onto the slotted table, automatic means for positioning the leaves to be folded on the table both laterally and transversely with reference to the slot, a folding blade located over the slot for engaging the leaves for moving the same through the slot for effecting the folding of the leaves, means for operating the folding blade, means comprising a fixed and a movable block member for compressing the folded leaves, and gate means on the movable compressing block for releasing the folded leaves after being compressed.

Composing Machines:

2,055,643. PRODUCTION OF TYPOGRAPHICAL SLUGS. Christian Augustus Albrecht, Berlin, Germany, assignor to Mergenthaler Linotype Company, Brooklyn, N. Y., a company of New York. Application June 3, 1935, Serial No. 24,627. In Germany June 5, 1934. 3 Claims. (Cl. 199—47.)

1. Method of producing a typographical slug wherein a plurality of slug-sections for endwise assembly are cast from a corresponding plurality of matrix-line sections, characterized by the steps of composing the complete matrix line, selecting sections thereof in sequence, the first of which is not less in length than the length of the mold slot in which the respective slug-section is to be cast, transferring the matrix-line sections successively to a composing stick in which they are sustained in casting relation to a mold and inserting a blank matrix in the composing stick at the leading end of any matrix-line section succeeding another whose length exceeds that of the respective mold slot, the length value of such blank matrix being equal to the excess length.

2,055,663. TYPOGRAPHICAL COMPOSING MACHINE. Richard R. Mead, Queens Village, N. Y., assignor to Mergenthaler Linotype Company, a corporation of New York. Application September 4, 1935, Serial No. 39,112. 20 Claims. (Cl. 199—46.)

1. In a typographical composing machine, the combination of a supporting frame, a removable matrix magazine supported thereon, and magazine removal means arranged normally within the confines of the supporting frame and movable in the plane of the frame into a magazine supporting position outside the confines of the frame.

2,055,664. TYPOGRAPHICAL COMPOSING MACHINE. Richard R. Mead, Queens Village, N. Y., assignor to Mergenthaler Linotype Company, a corporation of New York. Application October 2, 1935, Serial No. 43,136. 20 Claims. (Cl. 199—45.)

1. In a typographical composing machine, the combination of an inclined matrix magazine, a base frame whereon the magazine is removably mounted, a support upon which the base frame is arranged to slide forward and backward, and means carried by the base frame for suspending the magazine therefrom when the frame is in its forward position.

2,056,074. SLUG CASTING MACHINE. William L. Petersen, Springfield, N. Y., assignor to Mergenthaler Linotype Company, a corporation of New York. Application December 18, 1935, Serial No. 54,986. 20 Claims. (Cl. 199—61.)

1. In a slug casting machine, the combination of a mold, means for ejecting the cast slug from the mold, a guide into which the ejected slug passes, the guide including a wall settable to accommodate slugs of different sizes, and means acting automatically to move the wall to a predetermined setting as the slug is being ejected from the mold.

2,056,159. MACHINE FOR CLEANING THE MATRICES OF TYPESETTING MACHINES. Ernst Albrecht, Berlin, Germany. Application June 20, 1934, Serial No. 731,445. In Germany June 27, 1933. 5 Claims. (Cl. 15—77.)

1. A machine for cleaning the matrices of type setting machines comprising an elongated guideway, means for feeding the matrices in a single file along the guideway, means arranged midway of the ends of the guideway for reversing the matrices on the latter in the vertical longitudinal plane thereof, and brushes arranged above the guideway for cleaning the faces of the matrices before and after the reversal thereof.

2,057,111. TELEGRAPH TRANSMITTER. Louis M. Potts, Evanston, Ill., assignor to Teletype Corporation, Chicago, Ill., a corporation of Delaware. Application December 20, 1933, Serial No. 703,219. Renewed August 17, 1935. 57 Claims. (Cl. 178—17.)

1. In a tape-controlled telegraphic communication system, a tape reader responsive to signal perforations in a tape, the tape having perforations arranged in codes and each code having a predetermined number of unit elements, a signal distributor adapted to transmit signal codes of a lesser number of unit elements than that of the tape, means for transmitting signal codes over the distributor under control of the readings of the tape reader, and means for transmitting additional signal codes over the distributor under control of single perforations in the tape.

2,057,420. AUTOMATIC MOLD PROTECTOR FOR TYPE CASTING MACHINES. James M. Dent, Cleveland, Ohio, assignor to Composing Room Engineers, Inc., Cleveland, Ohio, a corporation of Ohio. Application June 3, 1935, Serial No. 24,688. 5 Claims. (Cl. 199—52.)

1. The combination with the movable mold carrier, the casting ejector mechanism and the adjustable ejector blade selector of a type casting machine, of a trip device having a movable element positioned adjacent the mold carrier, an angularly movable support for the movable element, means for connecting the support to the adjustable blade selector to adjust the support and movable element to a different position with respect to the carrier for each adjustment of the blade selector, a selective trip actuator mounted on the mold carrier having trip actuating portions spaced apart a distance such as to permit passage of the movable element in one of its adjusted positions and impart a movement thereto during a movement of the carrier if the blade selector is in any position other than a predetermined position, and means controlled by the trip device for preventing operation of the casting ejector.

Patent Papers:

Printed copies of patents are furnished by the United States Patent Office at 10 cents each. Address the Commissioner of Patents, Washington, D.C., and enclose 10 cents for each patent paper wanted.

2,055,642. MOLD OF TYPOGRAPHICAL SLUG-CASTING MACHINES. Christian Augustus Albrecht, Berlin, Germany, assignor to Mergenthaler Linotype Company, Brooklyn, N. Y., a registered company of New York. Application March 29, 1935, Serial No. 13,625. In Germany April 24, 1934. 8 Claims. (Cl. 199—55.)

1. A mold for a typographical slug-casting machine having core members for the formation of recessed slugs, characterized by at least one core member on each side of the transverse centre line of the mold, having its outer surface inclined outwardly from the centre line at an angle thereto not less than the angle of friction of the solidified slug metal relatively to the core metal.

2,055,644. TYPOGRAPHICAL SLUG CASTING MACHINE. Christian Augustus Albrecht, Berlin, Germany, assignor to Mergenthaler Linotype Company, Brooklyn, N. Y., a company of New York. Application June 3, 1935, Serial No. 24,629. In Germany June 8, 1934. 4 Claims. (Cl. 199—52.)

1. In a typographical slug casting machine adapted to be employed for the casting of slugs from both hand-composed and machine-composed matrices, the combination with a main starting and stopping device operable from the front of the machine and adapted for use when casting from machine-composed matrices, of a differently located auxiliary starting and stopping device also operable from the front of the machine and adapted for use when casting from hand-composed matrices.

2,057,652. LINE CASTING AND COMPOSING MACHINE. Louis M. Potts, Evanston, Ill., assignor to Teletype Corporation, Chicago, Ill., a corporation of Delaware. Application January 2, 1932, Serial No. 584,387. 71 Claims. (Cl. 199—18.)

1. The combination with a line casting and composing machine of a control mechanism including a plurality of matrix release elements, a set of permutation bars operative to select one of the release elements for operation, a permutation bar setting mechanism, means operated mechanically in accordance with the perforations in a record strip for controlling the setting mechanism, and a source of mechanical power for actuating the aforementioned bars, composing machine, and the selected one of the elements.

Feeding, Folding, Delivery:

2,055,371. PAPER ROLL STAND. Henry A. Wise Wood, New York, N. Y., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a corporation of Virginia. Application January 16, 1934, Serial No. 706,794. Renewed February 17, 1936. 9 Claims. (Cl. 242—64.)

1. The combination with a web roll supporting reel comprising movable ends for supporting the web rolls, of means for moving one or both of the ends at two different speeds.

Miscellaneous:

2,054,297. WEB CUTTING MECHANISM FOR BAG MACHINES. George W. Poppe, Brooklyn N. Y., assignor to Equitable Paper Bag Co. Inc., Brooklyn, N. Y., a corporation of New York. Application September 10, 1934, Serial No. 743,338. 12 Claims. (Cl. 93—20.)

8. In a bag machine, the combination with a support over which a web of paper passes, a former about which the web is wrapped to form a bag tube and feeding means for the web, of means for making a pair of longitudinal cuts in the web prior to folding the same about the former, the means including a pair of dies and means to move the support to bring the web and a pair of dies into cooperative relation at intervals during the feeding movement of the web and means for varying the interval of time during which the web and dies are maintained in cooperative relation.

2,054,365. TRIMMER FOR PRINTERS' ROLLERS. John J. Donahue, Kansas City, and George Rohman, St. Louis, Mo., assignors to Sam'l Bingham's Son Mfg Co., Chicago, Ill., a corporation of Illinois. Application October 16, 1935, Serial No. 45,232. 12 Claims. (Cl. 82—2.)

1. A trimming machine for the composition layer of printers' rollers, comprising a frame constituting a way, a pair of carriages reciprocably mounted thereon, means on each carriage for journaling an end of the shaft of a roller to be trimmed, a knife mounted on each carriage for movement toward the roller for trimming an end of the composition, and a friction drum mounted on the frame for movement to and from the roller, the drum engaging the surface of the composition for driving the roller.

2,054,618. APPARATUS FOR CLEANING PRINTING PRESS ROLLERS. Benjamin F. Ford, Dayton, Ohio, assignor to The Dayton Rubber Mfg. Co., Dayton, Ohio, a corporation of Ohio. Application November 5, 1934, Serial No. 751,576. 2 Claims. (Cl. 101—425.)

2. An inking apparatus for presses, including a trough adapted to engage a roll of the press, the trough having a rubber wiper attached thereto, the wiper being composed of a divinyl acetylene derivative synthetic rubber.

2,054,620. PRINTING MEDIUM AND METHOD OF MANUFACTURING. Abraham L. Freedlander, Dayton, Ohio, assignor to The Dayton Rubber Manufacturing Company, Dayton, Ohio, a corporation of Ohio. Application September 26, 1934, Serial No. 745,604. 3 Claims. (Cl. 101—217.)

1. A new article of manufacture for use as a printing medium, comprising a body which is relatively soft on the side to be supported and which increases progressively in its hardness from the supported side to the other side, and a synthetic resin coating thereon.

2,054,688. PRINTING AND EMBOSSING DIE. Fred Weindel, Jr., and Wilbur F. Price, Allentown, Pa., assignors to L. F. Grammes & Sons, Inc., Allentown, Pa., a corporation of Maryland. Application October 14, 1932, Serial No. 637,676. 3 Claims. (Cl. 101—201.)

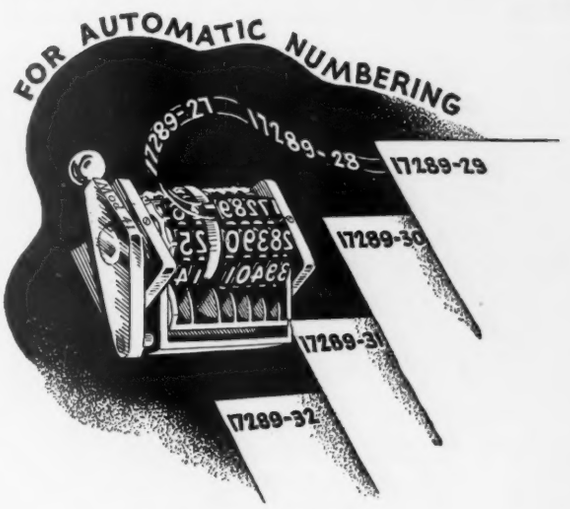
1. A die comprising an integrally-formed main printing section with infield and outfield areas; a secondary printing section with an annular printing area for a different color continuously around the infield area of the main section and recessed into the latter with capacity for being moved in and out of the same to enable separate inking of the two sections; and an actuating member with projections extending through the back of the main section and connecting with the secondary section.

2,057,488. APPARATUS FOR USE WITH TYPE SLUG SAWS. Frederick I. Hochstadt, Brooklyn, N. Y. Application January 2, 1936, Serial No. 57,222. 5 Claims. (Cl. 29—69.)

5. In an apparatus and in combination with a driven saw, a support therefor, a chute within the support having an open upper end disposed under the saw, a pair of open top containers housed within the support and located at the bottom of the chute in communication therewith, and manually operable means disposed within the chute above the containers for selectively opening and closing the chute to the containers, the containers being slidably removable through an opening in the support for emptying the same.

2,057,620. NUMBER-PRINTING APPARATUS FOR PRINTING MACHINERY. Joseph Magg, Zurich, Switzerland. Application July 14, 1934, Serial No. 735,191. In Germany February 19, 1934. 2 Claims. (Cl. 101—88.)

1. In a number-printing apparatus consisting of a housing, a set of numbering and ratchet wheels, switch and detent levers for these ratchet wheels and means of actuating the ratchet mechanism, a shaft carried in the housing which bears the numbering and ratchet wheels, having a flat surface thereon in the end in the housing opposite the units ratchet wheel, the corresponding end of the housing being provided with an aperture receiving the shaft and having a corresponding flattened surface, the flattened surface on the shaft extending



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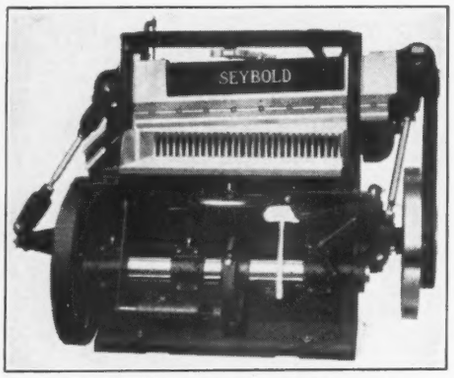

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along the shaft a distance greater than the thickness of the housing, whereby the shaft is capable of axial adjustment but is held against rotation.

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NEW YORK

Plate Making:

2,055,349. MECHANISM FOR FINISHING STEREOTYPE PLATES. Charles Alonzo Harless, Oak Park, Ill., assignor to The Goss Printing Press Company, Chicago, Ill., a Corporation of Illinois. Application September 20, 1934, Serial No. 744,762. 23 Claims. (Cl. 90—26.)

1. A machine for finishing cylindrical stereotype plates including in combination, means or resiliently holding a stereotype plate with its printing surface in true cylindrical form, a cylindrical broach of the same radius as the printing cylinder of a press and means including a longitudinally reciprocable bar on which the broach is mounted for effecting relative movement of the plate and broach on their common axis to finish the interior of the plate to the same true cylindrical form as the press cylinder and means preventing rotary movement of the bar.

2,056,968. MACHINERY FOR TRIMMING PRINTING PLATES. William F. Huck, Richmond Hill, N. Y., assignor, by mesne assignments, to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application March 5, 1935, Serial No. 9,408. 19 Claims. (Cl. 29—69.)

1. In a machine for cutting the straight edges of a curved printing plate, a support for the plate, cutting means arranged in cutting relation with each straight edge of the plate, the support and cutting means being in longitudinally movable relation with one another, means to adjust the cutting means along an arcuate path concentric to the curved surface of the plate to adapt same for cutting plates of a plurality of accurate widths, and means for maintaining the cutting means in an adjusted position.

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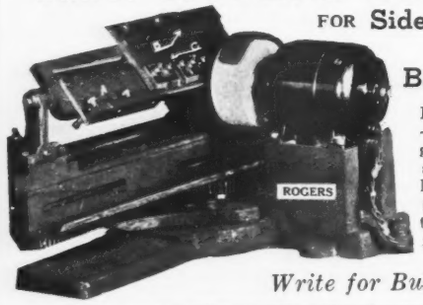

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Printing Presses:

2,054,152. PRINTING MECHANISM. Otis F. Wood, New Brighton, N. Y. Application March 3, 1931, Serial No. 519,710. 9 Claims. (Cl. 101—122.)

3. A web printing press comprising a printing cylinder, a carriage movable toward and from the cylinder, a set of rolls supported by the carriage, an endless printing band sleeved on the rolls, the band having openings therein forming a design, means for adjusting one of the rolls to vary the tension of the band, a pair of the rolls being adapted to bear against the cylinder whereby the run of the band between the rolls will be concaved when the carriage is advanced to printing position, means for guiding a web between the band and the cylinder, means carried by the carriage for forcing ink through the openings in the band within the concaved area thereof to print the design on the web, and means for adjusting the pressure of the band against the web.

2,054,215. ROTARY MULTICOLOR PRINTING MACHINE. Robert Thomas Colville, Chelsea, Victoria, Australia. Application August 16, 1933, Serial No. 685,449. In Australia August 30, 1932. 5 Claims. (Cl. 101—177.)

1. In a multi-color printing machine, a main frame, an impression cylinder rotatably mounted therein, an odd plurality of impression faces on the cylinder, an offset blanket on each face at least two offset cylinders operatively mounted in relation to the impression cylinder, each offset cylinder having an offset face and a space the arrangement being such that the offset face contacts with alternate impression faces, a plurality of plate cylinders mounted in operative contact with each offset cylinder, and means whereby an offset cylinder and associated plate cylinders may be circumferentially adjusted so that in each revolution each face of the impression cylinder which does not carry a sheet in that revolution receives an impression which is offset on to the inner face of a sheet when the outer face of the sheet receives an impression from another offset cylinder in the following revolution.

2,054,313. APPARATUS FOR PRINTING AND EMBOSSING IN REGISTER. Charles G. Bright, Appleton, Wis., assignor to Paper Patents Company, Neenah, Wis., a corporation of Wisconsin. Application September 29, 1934, Serial No. 746,095. 5 Claims. (Cl. 101—23.)

1. Apparatus for printing and embossing in register, comprising, in combination, a cut out metal printing roll carrying a design in relief, means for supplying ink thereto, an ink transfer roll having an elastic surface in rolling contact with the printing roll, an embossing roll carrying in relief the same design as the printing roll in rolling contact with the transfer

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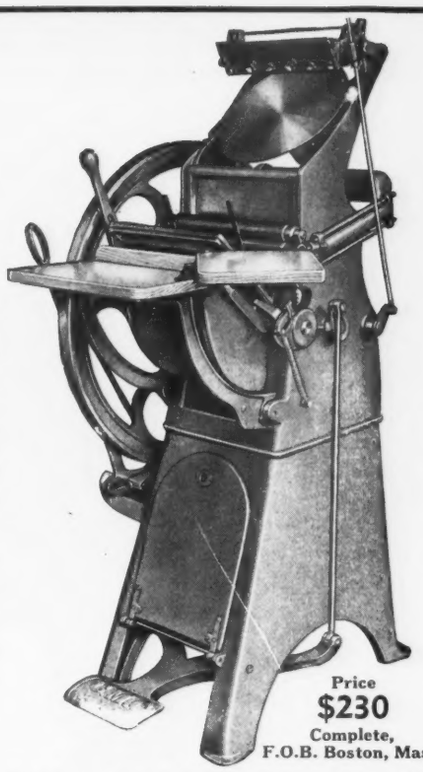

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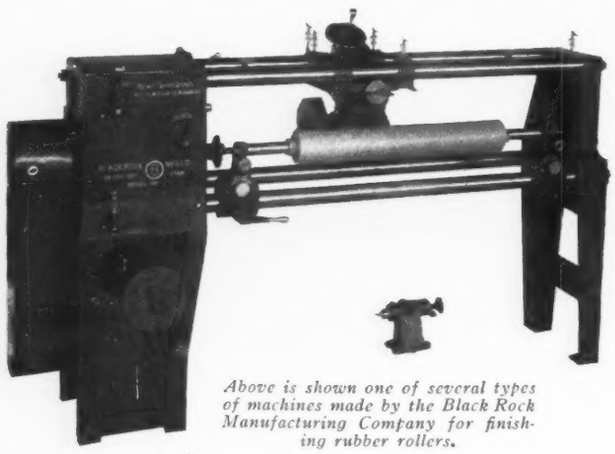


Above is shown one of several types of machines made by the Black Rock Manufacturing Company for finishing rubber rollers.

BLACK ROCK MANUFACTURING CO.

189 Osborn Street **Bridgeport, Conn.**

roll, and a paper impression roll between which and the embossing roll the paper web to be printed and embossed is passed.

2,054,818. SHEET REGISTERING AND FEEDING MECHANISM. William F. Huck, Richmond Hill, N. Y., assignor, by mesne assignments, to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application April 25, 1934, Serial No. 722,304. 21 Claims. (Cl. 101—158.)

1. In a sheet feeding mechanism operable upon a printing plate, a sheet supporting member normally maintained in a sheet loading position, means to move the sheet supporting member to a printing position, and means to retract same to its loading position while the printing operation is in progress.

2,055,039. ROLL HOLDER. Charles A. Meisel, Milton, Mass., assignor to Meisel Press Manufacturing Company, Boston, Mass., a corporation of Massachusetts. Application August 7, 1935, Serial No. 35,129. 5 Claims. (Cl. 242—68.)

4. A roll holder for supporting paper rolls in printing machines and the like comprising a rotary shaft having an abutment secured thereon to engage within one end of the roll, the shaft being threaded adjacent the other end, and an abutment slidable over the shaft to engage the other end of the roll, and means to secure the latter abutment in position comprising a nut cut away at its inner circumference to permit it to be laterally disengaged from the thread of the shaft and a key slidable axially along the shaft into the cut away portion substantially to fill the same to hold the nut in mesh.

2,055,272. ROTARY INTAGLIO PRINTING. Adolph Weiss, Brooklyn, N. Y. Application December 7, 1932, Serial No 646,032. 49 Claims. (Cl. 101—157.)

1. In a rotary intaglio printing press, the combination of an ink housing, a rotatable printing cylinder having a portion of its periphery within the housing for the application of ink thereto, wiping means comprising a reciprocable doctor knife normally in wiping engagement with the cylinder, and closure means cooperating with the doctor knife and the housing and the cylinder for preventing substantial evaporation of the ink, said closure means comprising a relatively stationary sealing element constituting a sealing extension of said doctor knife during the reciprocation thereof.

2,055,319. PRINTING PRESS. Ernest James Smith, Fleet Street, London, England, assignor to The Goss Printing Press Company, Chicago, Ill., a corporation of Illinois. Application September 29, 1934, Serial No. 746,055. In Great Britain January 16, 1934. 8 Claims. (Cl. 101—221.)

1. In a late news printing mechanism, in combination, an impression cylinder and a plate cylinder, driving means therefor including a differential, means for throwing on and off the impression, means for controlling the differential, means cooperating with the differential to keep the cylinders in registry with the cylinders of the press and a common manual means for controlling the last three means.

2,056,922. GRIPPER MECHANISM FOR PRINTING PRESSES. William Gegenheimer, Baldwin, N. Y., assignor to Willard Manufacturing Corporation, New York, N. Y., a corporation of New York. Application October 20, 1934, Serial No. 749,244. 2 Claims. (Cl. 101—410.)

1. In gripper mechanism for cylinder printing presses, a cylinder having a peripheral gap therein bounded by cylinder walls at the opposite edges of the gap, means for rotating the cylinder, a shaft movable independently of the cylinder, carrying means on the shaft and disposed in the gap, gripper fingers pivotally mounted on the carrying means, a cam device carried by the cylinder and adapted to rock the fingers, a gear on the shaft, and a second gear in mesh therewith and having a contact finger, a spring acting upon the second gear and normally actuating the gears to hold the carrying means against a cylinder wall at one edge of the gap, contact means in the path of the finger for rotating the second gear against the tension of the spring, and means for releasing the contact means for engagement by the finger.

2,056,991. PRINTING CYLINDER. John R. Tomlin, Alexandria, Va., assignor, by mesne assignments, to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application March 13, 1934, Serial No. 715,315. 14 Claims. (Cl. 101—415.1.)

1. A printing cylinder having a gap, means for securing one terminal of a flexible printing plate to the cylinder, coacting movable members, means for securing the opposed terminal of the flexible printing plate to one of the coacting movable members, means operably supported by the cylinder for forcibly moving one of the movable members thereby forcibly moving the coacting movable members to plate securing position to securely bind the flexible plate around the periphery of the cylinder, the movable members each having an accute surface of the same radius as the periphery of the cylinder so that the arcuate surfaces coincide with the periphery of the cylinder when the movable members are in plate securing position thereby closing the gap to complete the peripheral portion of the cylinder.

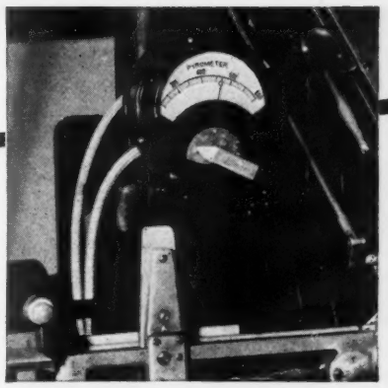
NEW GOSS INSTALLATION

Installation of the New Goss High Speed Anti-Friction press at the South Bend *Tribune* has been completed. The new equipment consists of five units with color facilities and one pair of folders. Work on this installation began in August after two units of the old Goss press had been dismantled and the new foundation completed.

The *Tribune's* new Goss press will produce a paper of 2 to 40 pages in page multiples of two and from 40 to 80 pages in multiples of four. It will print 40-page papers at a speed of 45,000 copies per hour, delivering them folded edge forward, carrier size. Besides printing blacks, this press will handle full color printing. The *Tribune's* Sunday colored comics will be produced on the new press.

Although it is said this Goss press has an extremely low vibration rate, due to its mass and smooth printing, extra precautions are being taken to prevent its operation from affecting the broadcasting studios of WSBT and WFAM, The *Tribune* stations, on the third floor of the building. The press, which weighs about 190 tons, is being specially mounted on a patented spring suspension.

Under the press are six latest type Kohler reels that hold three tons of newsprint each and operate electrically in unison with the speed of the press. This makes a total paper capacity of 18 tons at the start of each run.



MOUTHPIECE AND CRUCIBLE METAL TEMPERATURES DETERMINED INSTANTLY AND ACCURATELY WITH THIS

NEW PYROMETER

This new two-point Pyrometer installed on either Intertype or Linotype machines gives instant and accurate temperature of the mouthpiece and the metal in the crucible.

The two-point Pyrometer is mounted permanently at the top of the column in a position where its dial can be read easily. The Pyrometer is equipped with two cables and elements, one of which is inserted in a hole at the top of the pot and is immersed directly in the molten metal. The other element is mounted on top of the mouthpiece back of the mold disk rim. A switch on the dial enables the operator to determine instantly either mouthpiece or crucible metal temperatures at will. Or the switch can be left on either setting indefinitely.

This new two-point Pyrometer eliminates the guess work that heretofore has always been prevalent in setting temperature control governors. By maintaining proper mouthpiece and crucible metal temperatures, "bleeding feet" or honeycombed bottoms of slugs and defective letter characters on printing surfaces are minimized.

Write today for complete description and prices.

ILLINOIS TESTING LABORATORIES

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Selby Mohr, 883 Mission St., San Francisco, Cal.
C. S. Illingworth, 49 Springville Avenue, Buffalo, New York
Thompson-Hayward Chemical Co., 2228 Blake St., Denver, Colo.
Thompson-Hayward Chemical Co., 909 2nd St. So., Minneapolis, Minn.
Metzger Photo Supply Co., 1091 So. Main St., Akron, Ohio
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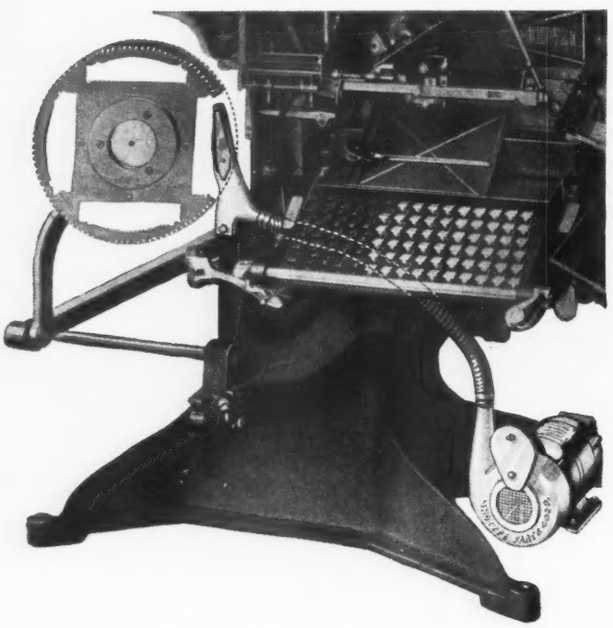

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If you cast the equivalent of 10 point solid slugs or over, you should investigate the economies that will result from the installation of a Model B Air Blower.

Many already are paying dividends to owners. Full information will be gladly sent on request—or better still, order one on "ten day approval." Price $40.00 F. O. B. NEW YORK. D. C. Motors $5.00 extra.

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314 West 10th St.

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LONG ANNOUNCES APPOINTMENTS

President Long of the International Association of Printing House Craftsmen has announced the following appointments to make up the personnel of the Educational Commission:

Chairman, Fred W. Hoch, 461 8th Ave., New York, N. Y.

Vice Chairman—Eastern Division, Howard N. King, The Maples Press, York, Pa.

Vice Chairman—Western Division, Craig R. Spicher, 53 West Jackson Blvd., Chicago, Ill.

Apprentice Education, Allan Robinson, Greenmount Ave. and Eager St., Baltimore, Md.

Management, H. G. Bradley, 740 S. Alabama St., Indianapolis, Ind.

Composition, Walter F. Schultz, 1123 Oak Cliff Blvd., Dallas, Texas.

Electrotyping, Philip J. McAteer, 470 Atlantic Ave., Boston, Mass.

Gravure, Ralph Winship, 7th and Sansom Streets, Philaddlphia, Pa.

Ink, Hampton Auld, Jr., 104 Verona Ave., Newark, N. J.

Paper, Frank E. Wagner, 89 Broad Street, Boston, Mass.

Offset, Royal C. Hohenthaner, 114 North Third Street, Minneapolis, Minn.

Photo-Engraving, William H. Evers, 133 So. 11th St., St. Louis, Mo.

Presswork, Leon Shilvock, 341 Prender St. W., Vancouver, B. C.

Bookbinding, Leonard R. Barkes, 1187 Bluery St., Montreal, Canada.

Steel and Copper Plate Engraving and Pringing, Robert B. O'Hara, 142 12th Street, S. E., Washington, D. C.

Special Processes, John E. Cobb, 2222 Kinzie Ave., Racine, Wis.

ANOTHER WHO'S WHO

The November issue of Who's Who in the Composing Room, published by the Intertype Corporation, contains a number of items of interest to composing room workers and their associates, including a technical article by Harry G. Pottle and an article on proofreading by Joseph Lasky. There is also a continuation of the popular "Who's Where" column, containing personnel notes from composing rooms in all parts of the country. Numerous sales of Intertype four-deckers are recorded, including the new four-magazine mixer machines, as well as news of recent sales of Intertype Regal text type.

ORDERS GOSS MAGAZINE PRESSES

The McCall Corp., Dayton, O., has purchased two single-deck 32-page Goss High Speed Magazine Presses to be used in the production of *News Week*. One of these presses is for printing black only, but has provision for color. The other press is for black and additional color on both sides of the sheet.

The presses are rated at a normal running speed of 16,000 cylinder r. p. m.

Improved Goss High Speed Folders will deliver products two abreast at full speed. Provision has been made for printing bleed pages. Anti-friction construction is employed throughout. The inking carriages are removable, and all rollers are ball bearing. Roller adjustments are handled from outside the press frames.

BUYS UNITUBULAR PRESS

The Sidney (O) *News* has purchased a 16-page Goss Unitube press and stereotype equipment to be installed soon. Provisions have been made for running color. E. C. Amos, editor, announced that an expansion program includes many plant changes and the addition of an adjoining building. A large plate glass window will be placed in the press room for the purpose of admitting outdoor light and to permit passersby to watch the press in action.

RAILWAY EXPRESS APPOINTMENTS

L. O. Head, President of the Railway Express Agency, announced recently that a general sales department has been created at the executive headquarters of that Company, 230 Park Avenue, New York, N. Y., to carry forward a greatly widened plan of sales promotion activities. Kinsey N. Merritt has been appointed to direct this new department, with the title of General Sales Manager.

Mr. Head made public the appointment of Calvin A. Frey as Vice President in charge of Traffic, to succeed George S. Lee, resigned, and in addition announced the creation of a new position, to be known as Traffic Executive, and the appointment of J. H. Butler to that position.

Other important appointments in the Traffic Department were: R. S. Wheeler as General Traffic Manager, also a new position. C. F. Messenkopf succeeds Mr. Wheeler as Traffic Manager.

No. 1018 Chair. All heights. Steel frame.

Tables, Trucks, Cabinets, etc. . . built to special sizes to suit individual needs. Galley Cabinets built in 2 and 4 tiers, all sizes.

No. 70 Steel Table. Tables built in all sizes

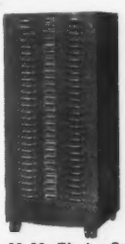
With steel equipment you build for permanence. The first cost is no more than you pay for wood; but the lasting qualities are indefinitely greater. Steel built articles cost you no more, and they give greater returns in uninterrupted service in every day use. You can easily convince yourself of these facts in your own plant.

No. 15-19 Linotype Operator's Chair. Adjustable height and tilt.

No. 3040 MAILING TABLE

No. 3040—One of the many patterns of All Steel Mailing Tables designed to do an efficient job for you. We also build to your specifications.

No. 38 Desk 34" wide, 28" deep, adjustable height, 37½ to 46½ at front.



No. 28-20 Electro Cabinet, 28 drawers; 20"x 18" x 1" inside.

The Angle Steel Stool Company builds for Printing Plants only those practical items that are necessary to the efficient handling of work. These illustrations show only a partial line.

Write for Complete New Catalog "D" with Price List

Angle Steel Stool Co.
127 North Oak Street
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No. 14-12. M. Matrix Cabinet. 14 drawers. 11 grooves each.

No. 100 Stool. All heights. Also with backs.

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Slitters—(Shear Cut)—Wide and narrow cuts to 5/32 inch minimum.

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Order a supply today and make your own test.

COYNE & PADDOCK INC.

{Successors to Paddock Cork Company}

48-15 32nd Place Long Island City, N. Y.

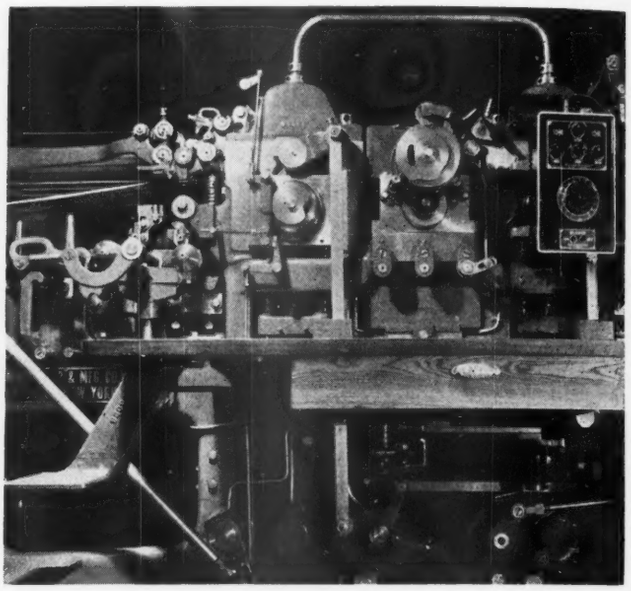
Equipment

(Continued from Page 44)

dropped away from the roller for quick washup without disturbing the setting.

The specially designed delivery is of late suction roll-off type and discharges the sheet printed side up. The front edge of the sheet is held firmly by air suction as the delivery carriage travels toward the pile. On the return, the suction rollers and tapes roll from under the sheet but retain control until it is dropped upon the pile. It is claimed this delivery adapts itself to all kinds of stock and is especially effective on lightweight paper.

The front end of the feed board is counterbalanced so it can be raised easily for access to the cylinder for make-



ready. There is ample space between feeder and press for the pressman to place the form conveniently on the type bed and to work freely on it.

A tachometer is provided as standard equipment and shows the actual speed of the press.

Some of the specifications are as follows: Overall width is 9 ft. 2¼ in. Overall length—press, feeder and pile delivery is 27 ft. 7⅞ in. Height with top rods and feed board raised 9 ft. 9 in. Capacity of feeder 4 ft. 5 in. Capacity of delivery (pile) 2 ft. 7 in. Approximate net weight 35,500 lbs.

Further details and full information can be obtained by addressing the Miehle Printing Press & Mfg. Co. direct or in care of *Printing* EQUIPMENT *Engineer.*

Heavy Duty Paper Drills

A new heavy duty drilling machine, called the "Style F," has just been added to the line of paper drills made by The Challenge Machinery Company. This new model has been designed and built along the same modern stream lines as the recently announced Challenge "Style E." Two important features have been incorporated. The "Style F" handles a wider range of work, drilling holes from ⅛ in. up to 1 in. diam., and is somewhat larger and heavier. Both machines drill a ream of stock at one stroke, either before or after the jobs are padded,

the table remaining stationary during the operation. Attachments are provided for slitting, slotting, V-slotting and round cornering. Additional information may be obtained from the manufacturer or in care of *Printing* EQUIPMENT *Engineer*.

Spaceband Improvement

It has been announced by Reid Brothers Co., Inc., Beverly, Mass., that a new operation has been introduced in the making of spacebands for line-casting machines. Equipment has been installed and is in operation to grind accurately the surfaces which bear agianst the wedge. This grinding operation takes place after the

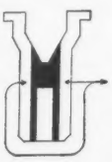


Diagram shows reverse side of spaceband sleeve. Arrows indicate where Reid Bros. now grind surfaces which bear against the spaceband wedge.

sleeve has been hardened. Manufacturer states the performance advantages of the improved sleeve over a rough-milled surface are perfect lockup, smoother reciprocatory movement between wedge and sleeve, as well as longer useful life of the spaceband. Scoring and roughing of the wedge is eliminated.

New Inexpensive Micrometer

It is the contention of F. S. Young of the Pioneer Mfg. Co. that the use of micrometers in all departments of the printing plant has not been as prevalent as the various production operations throughout the plant would seem to demand. Mr. Young states it is now possible to buy micrometers freely and inexpensively. In all departments of printing plant production work the fundamental simplicity of the instrument often has been

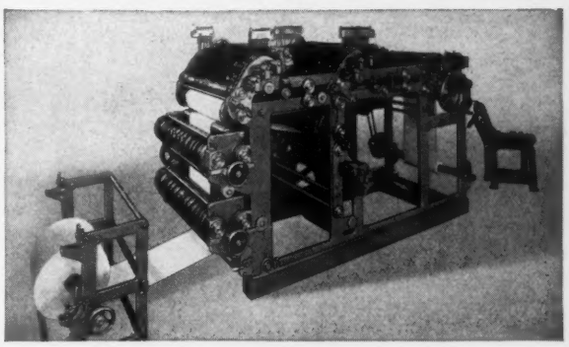
overlooked. In the last analysis, a micrometer is nothing more or less than a calibrated screw. Given an accurate cut thread and an adjustment to set the instrument at zero, precision is almost automatic.

The Pioneer Mfg. Company, who last year introduced the low-priced Pioneer Bench Router to the printing industry, is offering a one-inch micrometer, chrome finished, and boxed in a slide-cover wood case. Accuracy within 0.001 in. is guaranteed—which, it is claimed is a degree of precision adequate for ninety-nine percent of all micrometer applications.

Goodrich Vibro-Insulators

The B. F. Goodrich Company, announces a standard line of vibration damping rubber-to-metal mountings, known as Vibro-Insulators, which are designed for bases of printing machinery, electric and combustion motors, generators, vibrating screens and reciprocating mechanisms.

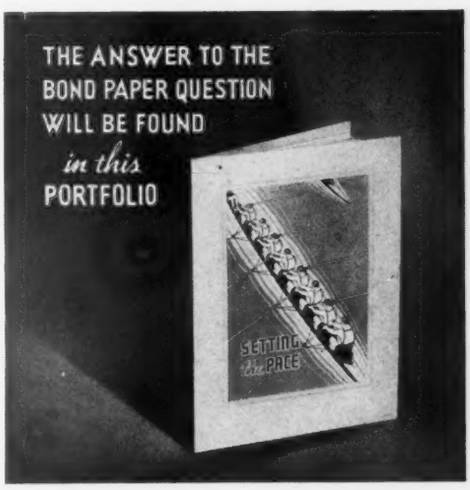
These mountings are of the shear type, consisting of a highly age-resisting rubber bonded to two metal plates,



Rotary Printing Presses for continuous business forms. Punching, Numbering, Perforating, Slitting, Rewinding or Folding. Curved Plate Casting Boxes and Routers. Tail Cutters, Slitters and Spoolers.

The Hamilton Tool Co.

220-248 North "B" St. Hamilton, Ohio



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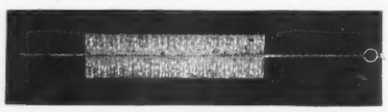

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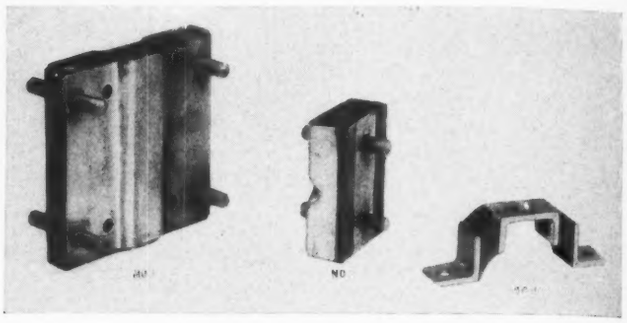
CHICAGO

one of which is fastened to the vibrating member and the other to the support or foundation. The rubber is attached to the metal plates with a brass plating type of bond which gives an adhesion of 200 lbs. per sq. in.

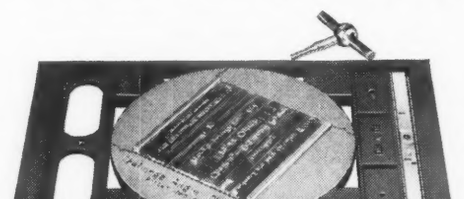
Vibro-Insulators are stocked in three types. Type No. 1 has maximum load capacity of 800 lbs. and minimum frequency of 800 vibrations per min. Type No. 2 will support maximum load of 200 lbs. and has minimum frequency of 1200 vibrations per min. Type No. 10, which is of the double shear type, has a minimum frequency of 1000 vibrations per min. and is available in a range of sizes for loads of 50 to 3000 lbs.



Three Types of Goodrich Vibro-Insulators

Angle Chase

A new product, the Challenge Angle Chase, by The Challenge Machinery Co., now simplifies the locking up of diagonal forms. This new chase is composed of four rounded sections with a square inner area of 35 ems. These four sections fit tightly together and are enclosed as a single unit by four corner blocks. The chase can be turned easily to tilt the form to any angle desired. Correct position can be secured in case the form is unlocked or shifted or re-run, as the exact degree of angle is clearly indicated by markings on the chase.



View of Challenge Angle Chase for locking diagonal forms.

The Challenge Angle Chase can be used with any ordinary chase (10 in. or more in width). The illustration shows a complete form filled in with Challenge Mammoth Iron Furniture and Labor-Saving Iron Furniture and locked with a single Hi-Speed Quoin. Further details will be supplied by the manufacturer.

Self-Quadder Improvement

A recent improvement in the Mergenthaler Self-Quadder is an attachment for the precision control of straight-line justified indention with the right-hand vise jaw. The device may be adjusted by a setting to provide a fixed amount of space at the right-hand end of the slug. When the setting is once made, each succeeding line will have the same fixed indention.

Adjustment is by one-em, half-em and quarter-em settings, as well as in-between settings by quarter-point divisions.

In conjunction with the left-hand vise jaw adjustment, this device permits a fixed amount of space at either or

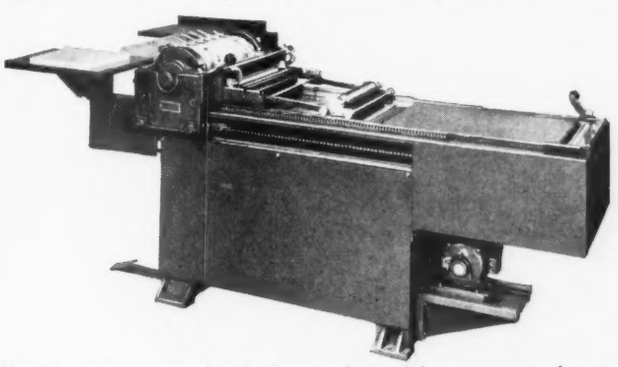
both ends of the slug, automatically. It is applicable to both regular and low slug quadding.

The attachment consists, essentially, of a stop for the righthand vise jaw to bank against when the line is justified and cast, a simple adjustment for regulating the adjustable stop for the required indention, and means for automatically throwing the adjustable stop in or out of operation at the proper timing intervals.

New Power Proof Press

The new Vandercook Power Proof Press will print at the rate of 1500 sheets an hour. The maximum sheet size is 17 in. by 27 in. Minimum sheet size which can be printed is 4 in. by 4 in. The form size of this press is 16 in. by 24½ in. The press occupies a floor space of 4 ft. 6 in. by 8 ft., which includes the space taken by overhang of feed and delivery tables.

The press is designed to yield job press speed and cylinder production on short runs where results must equal made-ready cylinder press quality and for customer convenience. Change of forms, makeready and register settings are simple operations. Impression cylinder packing is easily accessible. Washup of this press for color work may be quickly and easily performed. Delivery is semi-automatic, the sheet being returned to the operator by delivery fingers. Feed and delivery boards are arranged for minimum motion.



Manufacturer states rugged main frame and powerful eccentrics contribute to uniform impression.

A fountain control fits the ink coverage according to the size of the form. A cylinder trip may be manipulated on missed impressions or double rolling. A form roller trip permits running without inking the form. When form rollers are tripped steel distributors are lifted automatically clear of the rollers. Spring steel sheet brushes, it is said, eliminate sheet wrinkles and slurs automatically.

Operation of the press is controlled by a starting pedal. A speed control maintains running speed to fit sheet size and the ability of the operator (200 to 1500 sheets per hour). A snap switch near the operator is provided to shut off the motor.

Bench Model Rotary Shaver

Plane-O-Plate is the name given to a new rotary plate shaving machine by The Monomelt Company, Inc. This is said to be the first bench-model rotary plate shaver manufactured on a commercial scale. It has been brought out especially for the smaller city daily newspapers and job printing plants.

It is claimed by manufacturer that Plane-O-Plate handles stereotypes, electrotypes, halftones, stereotype and wood base in any gauge from 0.100 in. to 0.930 in. or 0.012 in. above type high, with absolute accuracy and speed. The cutting unit is 16-flute, helical type, mounted on Timken roller bearings. Table travel is

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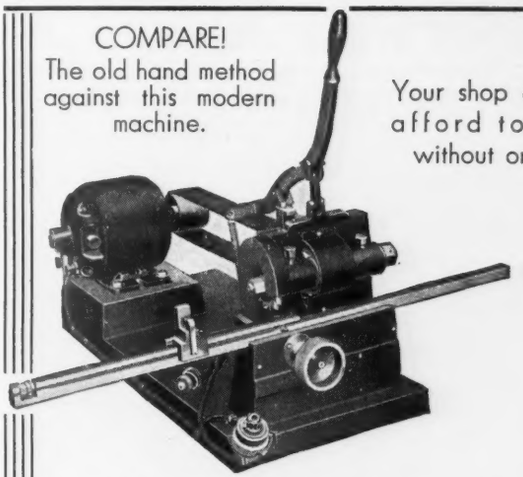
COMPARE!
The old hand method against this modern machine.

Your shop can't afford to be without one.



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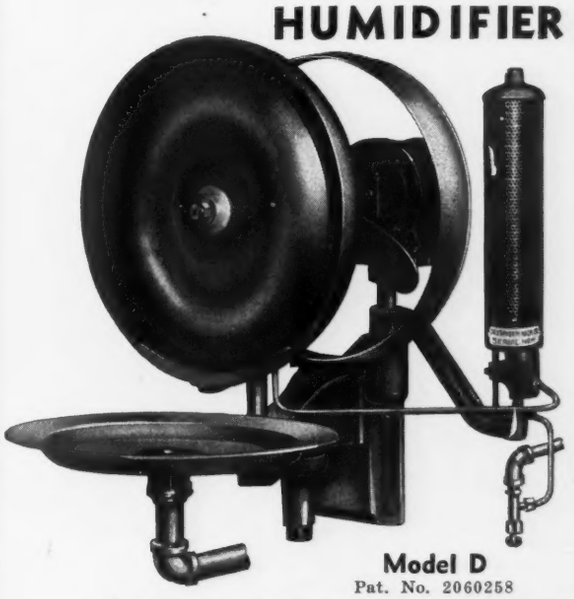

Model D

Pat. No. 2060258

For use in all plants where automatically controlled moisture content is desired.

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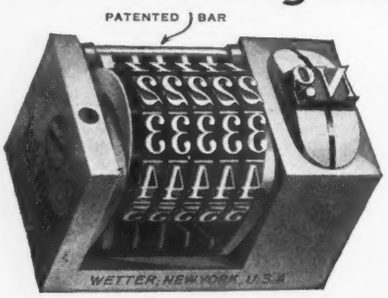
Southworth Machine Company

PORTLAND, MAINE, U. S. A.

WETTER

LOCK-WHEEL MODEL Numbering Machine



PATENTED IN UNITED STATES, CANADA AND EUROPE

The Patented Bar locks the wheels and prevents them from turning half way over; assures alignment of figures and accurate numbering

•

Prices and further details on request

EVERY DEALER is authorized to give you the manufacturer's guarantee that the "Lock-Wheel" WETTER will do all claimed for it. Your troubles are ended when you use the "Lock-Wheel." The "Locking" Attachment is built in the machine—wheels cannot turn half way over or all the way over unless intended.

Lock-Wheel Model 5—5 wheels (9 picas long)
Lock-Wheel Model 6—6 wheels (10 picas long)
Lock-Wheel Model 7—7 wheels (11 picas long)
Lock-Wheel Model 8—8 wheels (11½ picas long)

Sold by all Dealers and Branches

AMERICAN TYPE FOUNDERS

Manufactured by WETTER NUMBERING MACHINE COMPANY
Atlantic Avenue and Logan Street, Brooklyn, New York

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SPACEBANDS - - - 75c Each

Narrow Slot, Wide Strong Ribs, Solid One-piece Sleeve, Not Welded.

Sleeves ground on sides, Not punched. Metal accumulation avoided.

Inside surfaces of sleeve ground to insure perfect lock-up and to add life to the spaceband.

Sizes Available: Regular Thick, Teletype, Extra Thick, Thin and Extra Thin.

Made completely in our own plant. Over 300,000 made and sold by us. All sizes in stock.

Many other savings on typesetting machine replacement parts.

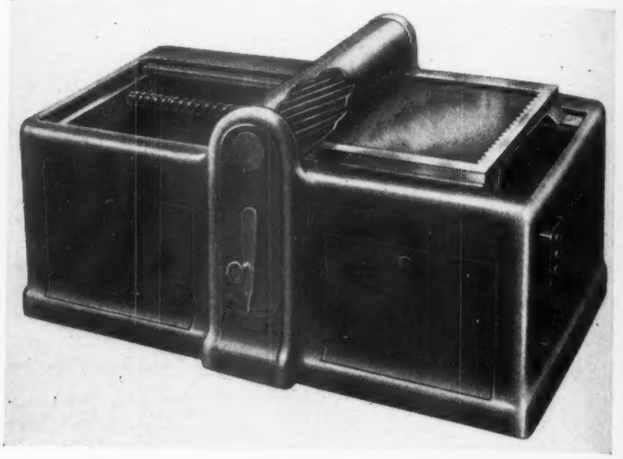
Send for a copy of our illustrated catalog.

BUY AMERICAN-MADE PRODUCTS

REID BROTHERS COMPANY, INC.
ESTABLISHED 1900
BEVERLY, MASSACHUSETTS

automatic and is operated by square thread lead screw.

Made in two sizes: 9 in. by 12 in. for job plants and 12 in. by 15 in. for newspaper plants. Table holds one full size cut or its equivalent in small cuts. Powered by General Electric Company motor with reversible starting and running windings. Equipped with forward and reversing switch with neutral setting, so that machine can be stopped at any point. Has automatic

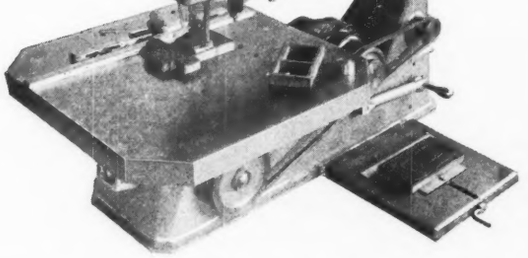


View of Plane-O-Plate, a bench model rotary plate shaver for smaller newspapers and job printing plants.

safety feature which prevents damage to cuts in case the operator forgets to set machine at proper cutting height. Additional information may be obtained from the manufacturer direct, or through *Printing* EQUIPMENT *Engineer.*

Bench Router and Mortiser

J. A. Richards, the Sawmaker, announces a new tool for the newspaper and printing trades. It is a Bench Model Router and Mortising Machine. The table size is 25 in. square and is provided with an adjustable line



Illustrates Richards Bench Model Router and Mortising Machine. Unique motor mounting permits change from jig sawing to drilling or routing.

gauge for straight-line jig sawing, broaching and routing. The overhead arm has the flat-leaf spring on the jig saw which permits the use of jig saw blades from the very finest to the heaviest without breakage. The jig saw is provided with phosphor bronze bearings which provide long bearing life and yet may be shimmed to take up wear.

The router and drill is provided with ball bearing drill spindle, a fast set and micrometer set depth gauge for routing. The belt drive on the router is combination vee belt and endless leather belts. Norma-Hoffmann

grease-seal ball bearings are used liberally in the construction.

The unique feature of this machine is the motor drive. The motor is pivoted on its base so that by throwing it over center either way a change can be made from jig sawing to drilling or routing. The machine weighs 400 lbs.

Further details may be obtained from the manufacturer direct or in care of *Printing* EQUIPMENT *Engineer.*

Linotype Knife Wiper

A new side trimming knife wiper has been announced by the Linotype Parts Corporation. The wiper mechanism consists of three major parts—the knife wiper bar carrying the wiper blades, a bracket assembly which fastens to the lower end of the first elevator slide, and a rod connecting the bar and bracket.

The wiper is operated by the first elevator. The knife wiper blade is caused to clean metal trimmings from the side knives when the first elevator makes its casting stroke. At this time a lever in the bracket fastened at the lower end of the first elevator slide is actuated by coming in contact with the first elevator lever, when, because of the fulcrum action exerted by the lever in the bracket, the wiper rod is pulled down forcibly at the completion of the down-stroke to cause the wiper blade to clear the knives at the bottom.

On its upward stroke, the wiper blade rises to a height which will clear amply a 30-em ejector blade. When the wiper blade has reached top position a roller in the bar tension spring engages a notch in the bar to sustain the wiper bar and blade in that position until the first elevator starts downwardly from normal to casting position.

A flat wiper tension spring carrying a roller bears down upon the wiper bar to cause the wiper blade to contact the full length of the trimming knife edges.

The wiper blade is underlaid with twelve shims, each 0.005 in. thick. The shims are removed one by one as the knives are reground to lower the blade so as to contact the knife edges.

Two New Plate Gauges

Two new model Plate Gauges are announced by Hacker Manufacturing Company. One of these is called No. 6 with a 6 in. throat and the other is called No. 3 with a 3 in. throat, both fully adjustable for measuring

View of new size Hacker plate gauge.

blocked plates, patent base plates, patent bases, paper, board, bed bearers, cylinder packing, etc. Although smaller in size, these new models are alike in accuracy and quality with the two larger models of Hacker Plate Gauges which are used by printers, electrotypers and photoengravers.

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A high grade, soft, pliable packing felt with a quick setting, non-crystallizing, non-slipping gum. In sheets 18x24 inches or cut in strips ⅛-inch to 1-inch widths at no additional cost. Gauges: light, .025, .030; medium, .035, .040; heavy, .045; extra heavy, .050.

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Plain and wire woven.

CORK MOLDING BLANKETS

Stere-O-Cork, Padd-O-Cork, 20x24 inches and 21x25 inches.

In addition to the above items we also supply flat and curved casting boards, tail boards, router belts, router bits, chalk and oil brushes, benzine brushes, rawhide and rubber mallets, planer blocks, molding boards, felt molders, rubber creepers, electric scorchers, zinc cut cement, Buck Brothers finishing chisels, graphite, electrotype rubbers, metal ladles, circular and jig saws, twist drills, shaver boards and packing felt moisteners.

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Write today and let us send you a sample of the Eastern Gummed Packing Felt, wire woven asbestos for scorcher covers or cork molding blankets. No obligation.

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- Speedier on "form"
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Why not give them a thorough trial in your own plant?

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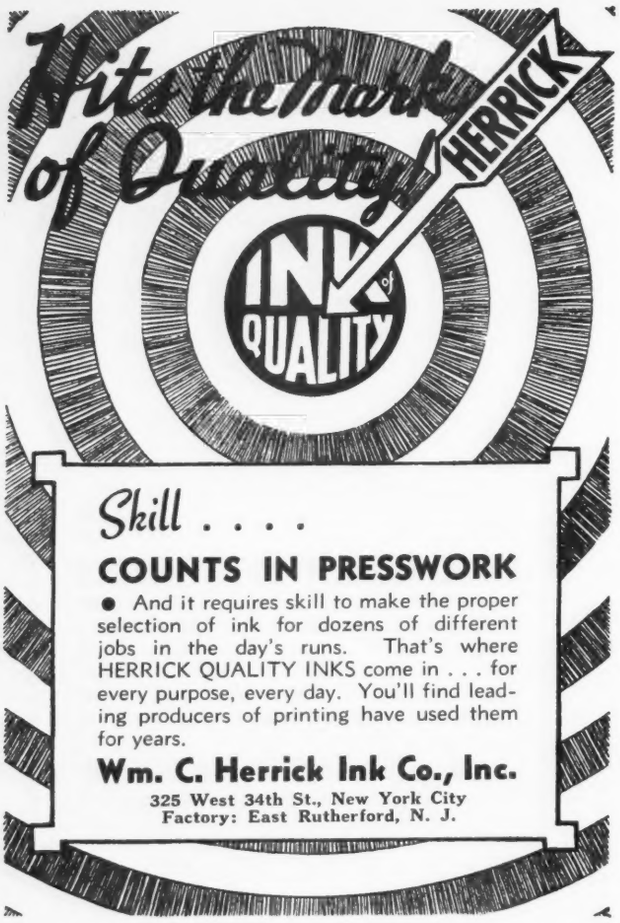

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● And it requires skill to make the proper selection of ink for dozens of different jobs in the day's runs. That's where HERRICK QUALITY INKS come in . . . for every purpose, every day. You'll find leading producers of printing have used them for years.

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MAGAZINES *for* LINOTYPES

(For models—L, 4, 5, 6, 8, 14, 18, 19, 25, 26)

THIS magazine represents culmination of nine years' constant improvement manufacturing magazines. It is light—20 pounds lighter than an all-brass magazine.

We use duralumin for top plate where there is little wear and weight can safely be saved. We use brass for the lower plate where ruggedness and long life are desired. We use duralumin bars, braces and partitions. Resulting magazine has all the best features with the criticisms of none. So popular has this magazine become in recent months that we have installed additional machinery, increased production with resulting lower costs so that today we offer not only an improved magazine, but the lowest priced as well.

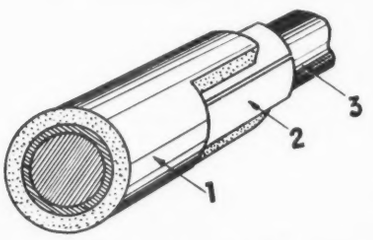
$90 each for Full Length—$75 each for Split Length—Time Payments Arranged

Montgomery & Bacon

TOWANDA, PENNSYLVANIA

New Type Rubber Roll

A new rubber roll for line-casting machine keyboards has appeared upon the market. The difference between it and the standard roll which is used commonly on line-composing machines is that the new roll is made from sheet rubber vulcanized over a thin steel shell. It is stated in manufacturer's literature that after the rubber is vulcanized to the shell, the roll is slipped



Diagrammatic representation of new type roll for line-composing machine keyboard rubber roll shafts. At 1 *is shown the roll which is vulcanized to a thin steel shell* 2. *The shell is slit lengthwise so that when the roll is applied to the shaft* 3, *it is caused to expand slightly. The expansion of the shell, manufacturer states, sets up a spring pressure of the shell upon the shaft which prevents slippage of the roll.*

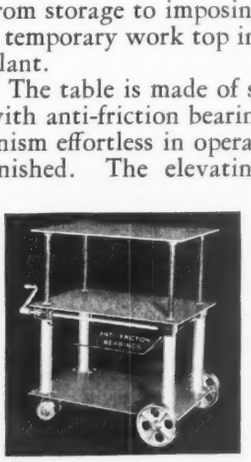
over a ¾ in. diam. mandrel (conforming in diameter to keyboard roll shafts) and is then ground down to 1.010 in. diam. in a grinder. After the grinding operation, the roll is slipped off the mandrel and is then ready for shipment.

The means for preventing slippage of the roll on the shaft, manufacturer states, is accomplished by slitting the thin steel shell longitudinally so that when slipped upon the shaft the shell expands slightly and holds the roll in position by spring pressure.

Elevating Transfer Table

The Hamilton Portable Elevating Transfer Table has been introduced to the printing industry by the Hamilton Tool Company. The table may be used for transferring forms to and from steam tables and matrixrolling machines and for transferring type pages or forms to and from storage to imposing stone. It may be used also as a temporary work top in any department of the printing plant.

The table is made of steel throughout and is supplied with anti-friction bearings to make the elevating mechanism effortless in operation. The table top is machine finished. The elevating mechanism consists of two



View of Hamilton Portable Elevating Table which is used for transferring forms in the printing plant.

horizontal shafts upon which are mounted four gears. Each of the gears engages one of the corner table top leg screws. Two sprockets mounted upon the horizontal shafts and connected by a steel sprocket chain insures that each leg screw will do its proportionate amount of work lifting the table evenly.

Anti-friction swivel casters provide easy turning of the table when shifting forms or other heavy material from one location to another.

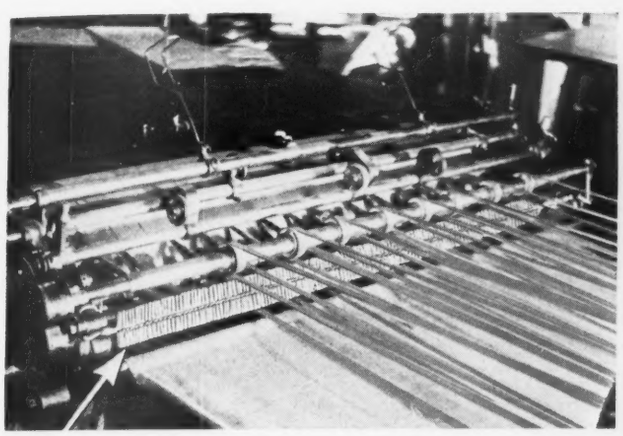
Built in two sizes: Style A, max. height from floor 40¼ in., carrying capacity 2000 lbs. Dimension of table

top 21 in. by 33 in. Style A2, max. height from floor 43½ in., carrying capacity 5000 lbs. Dimension of table top 26 in. by 38 in

Further particulars may be obtained by addressing Hamilton Tool Company direct or in care of *Printing* EQUIPMENT *Engineer.*

Static Eliminator Brush

The static eliminator manufactured by Western Brush Co., Inc., is a twisted wire brush with brass bristles and copper center that can be placed either over or under the traveling paper on the printing press. The brush is fastened across the press from frame to frame. It can be placed inside the tapes, feeder end, delivery end, in fact anywhere on the press where the operator feels he is having static trouble. The static is attracted by the bristles and is carried into a wire that runs to any ground, preferably a water pipe.



View of Static Eliminator Brush attached to cylinder printing press. The brush consists of brass bristles supported in twisted copper wire center. A ground connection to a water pipe or other suitable connection conducts static away.

The brush is said to be of special value on gravure presses, eliminating dangerous fire hazards peculiar to this form of printing.

Inasmuch as there is no wear directly on the brushes the "bristles" will last indefinitely.

Those who are interested should write for further details to Western Brush Company direct or in care of *Printing* EQUIPMENT *Engineer.*

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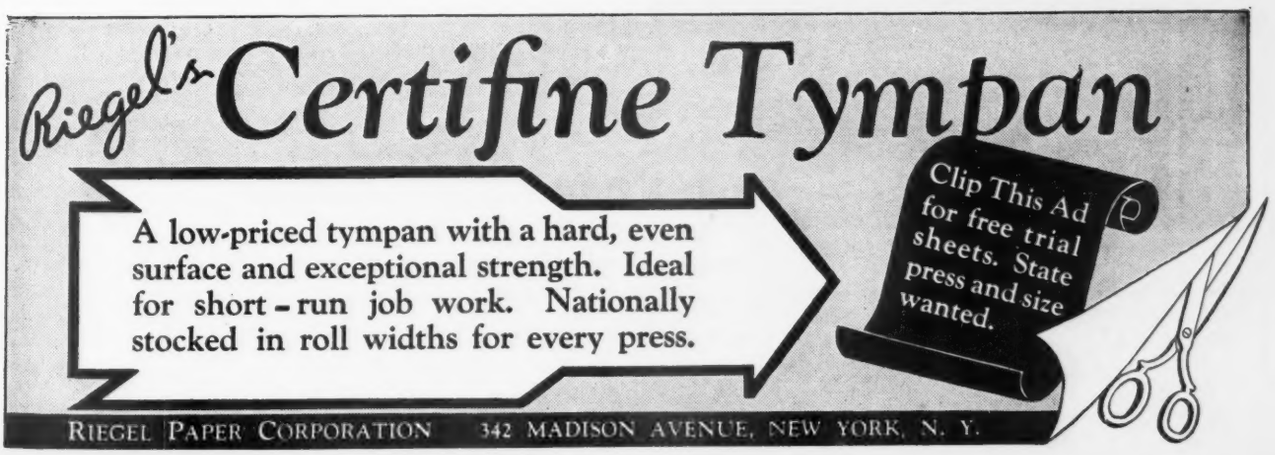
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A low-priced tympan with a hard, even surface and exceptional strength. Ideal for short-run job work. Nationally stocked in roll widths for every press.
Clip This Ad for free trial sheets. State press and size wanted.
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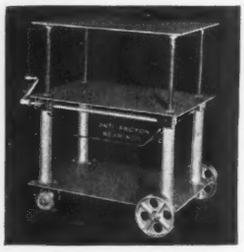
HAMILTON PORTABLE ELEVATING TRANSFER TABLE



THE Hamilton Portable Elevating Transfer Table (Patented) is unsurpassed for transferring forms to and from steam tables and matrix rolling machines, or for transferring type pages to and from storage to imposing stone. It has a large range between low and high positions, which makes it adaptable for filing forms. Easy to operate. All steel construction. The table top is machine finished.

Write for complete details and prices.

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GENERAL REPAIR OF LINOTYPE AND INTERTYPE MOLDS (ANY KIND, ANY SIZE), PARTS, ETC., SINCE 1912
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Technical Literature
for November, 1936

Readers of *Printing* EQUIPMENT *Engineer* who are interested, may secure any of the Books, Catalogs or Bulletins listed below by checking the literature desired in the square opposite the title. Mark carefully only that literature which you wish to receive. Fill out the coupon and send it to us. The literature will be forwarded gratis except where noted.

☐ *Industrial Floor Trucks*—Designs are shown in a large illustrated folder, No. 225, just issued by Lewis-Shepard Company. Floor trucks for the interior transportation of practically any material or product are shown.

☐ *Nicholas Cochin Bold*—Specimen sheet demonstrates how face may be used with setting of advertisements in reproduction of section of newspaper page. Reverse side shows sizes in which foundry type face may be obtained.

☐ *Two Colors in one Operation*—Broadside printed in three colors and black ink on enamel paper with illustrations showing and describing details of a new size two-color automatic printing press.

☐ *And So They Split the Jonker*—Illustrated broadside printed in color describes motors made especially for printing equipment.

☐ *Roovers Embossing Presses*—Folder illustrates and describes press and other similar equipment of a specialty nature for embossing paper and card stock and for metal plates.

☐ *Portable Cranes*—Hand and electric, with either revolving base, telescopic or hinged frame, to pile or service heavy products or materials of many kinds are shown in a small illustrated folder, No. 506.

☐ *Egmont Folder*—Shows specimens of various weights and adaptations of face cast in foundry type and which is also supplied for line-composing machines in matrix form.

☐ *Illustrated Bulletin*—Describes parts and accessories for line-composing machines.

☐ *Sparks From the Matchbox*—No. 4 of Vol. 1 with reproductions of jewels in many colors printed on the cover. Back page presents the Young-Helmholtz three-color principle. Editorial content devoted to transparent colors for mixing inks.

☐ *Humidifier Bulletin*—Descriptive of humidifier with sensitive individual automatic control.

☐ *Bench Model Plate Shaver*—Circular illustrates and describes rotary plate shaver with traveling bed. Bed sizes, 9 in. by 12 in. and 12 in. by 15 in.

☐ *Knife Wiper*—Small circular illustrates and describes new knife wiper for application to Linotype machines.

☐ *Trim-O-Saw Booklet*—Describes and illustrates features and the operations of composing room tool.

☐ *Offset Equipment*—Folder illustrates printing press, whirler, photocomposing and lettering, vacuum printing frame, process camera and lamp.

☐ *Stock Sprocket, Chain and Coupling Catalog*—Gives all data essential for ordering. Also gives complete data about chains and the means for computing chain lengths.

PRESS ROLLER WASH

A very effective wash-up solution for the usual type of composition rollers is said to consist of 45 gallons of ordinary kerosene in which 5 gallons of oleic acid and 5 gallons of aniline oil have been mixed. This composition effectively softens dried ink and leaves the rollers in excellent condition for printing subsequent jobs.—American Ink Maker.

☐ *Press-O-Matic Job Press Control*—Folder describes operation and gives technical information about control device for varying speed of job press motor according to size of job being printed.

☐ *Press Bulletin*—Illustrates and describes 10 in. by 15 in. and 12 in. by 18 in. automatic press with feeder.

☐ *Nicholas Cochin Bold*—Sheet set newspaper style one side shows uses for type face. Other side gives sizes in which face is to be had.

☐ *Silversheen*—Folder describing Silversheen inks which combine metallic appearance with color. Six swatches inside folder show colors available.

☐ *Type EC Electric Counters*—Bulletin No. 16 describes and illustrates electric counters for attachment in any position to printing presses, line-composing and other printing machines where counting operations are required.

☐ *Linotype Typographic Developments*—Bulletin No. 11 shows specimen settings available for new matrix faces. Also shows special characters and borders.

Printing EQUIPMENT *Engineer,*
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Attention of.....

Position.....

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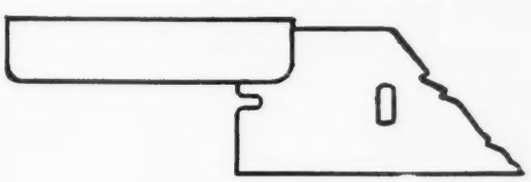
CUT-OUT AND MAKEREADY KNIFE

If lines of printed matter are cut out in the composing room for paste-ups for the engraver or if the job pressroom is in need of a tool having a razor edge and a sharp point, here's a tip which will be useful.

One nationally known razor blade (the Gem) is fitted with a head-band shrunk very tightly to one side of the blade. To convert the blade into a stripping or makeready knife, place the blade in a vise, keeping the head-band about ¼ in. above the top of the vise jaws. Apply a small screwdriver, flat side to the top of the



vise jaws and the business end close to the blade proper. Now turn the screwdriver and the head-band will pry off—but not easily.

Now place the blade in a vise with a little less than half the blade showing above the top of the vise jaws. Have the exposed part of the blade at a 45 deg. angle. Take a pair of pliers and grasp the part of the blade showing above the vise jaws to break off that portion of the razor blade. Tighten the remaining section of the blade between the vise jaws in a horizontal position. Start the head-band on the blade. It will be necessary, to drive it back with a hammer as the head-band fits very tightly on the blade. Drive the head-band partially on the blade to serve as a handle as shown in the diagram.

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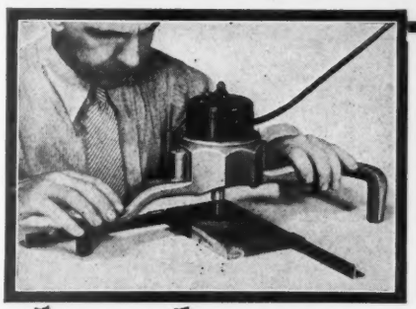

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Standard, Sensitive, Accurate. Chrome Finish. Wood Box.
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What you've needed for years. Sturdy, accurate, easy to use, inexpensive. A convenient tool of tremendous versatility. Complete with work-holder and three cutters. Write now for details.

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QUALITY BUILT IN
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Absolutely keeps your plunger from sticking
and the mouthpiece from clogging. $2.75 a dozen sticks and each stick is good for at least 60 applications. Send 25c for a full sized sample. . . . Made by the makers of UNITED AMERICAN TYPE METAL.
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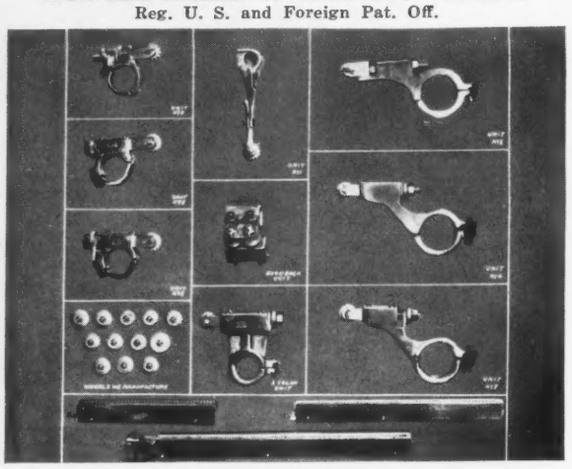
FOR ALL MAKES OF PRINTING PRESSES
Reg. U. S. and Foreign Pat. Off.



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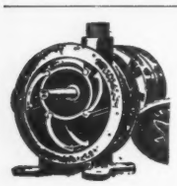

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They are also used for blowing to loosen up sheets of paper on a pile feeder, and we have strainers to prevent oil from spraying on the sheets.

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The electrotyper uses the air for agitating his plating solutions, and these pumps are found in almost every plant doing this work. All sorts of shops use them for all sorts of air using devices.

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In the big shops, especially in the newspaper plants, these pumps operate the stereotype furnaces creating high heats with gas or oil as fuel.

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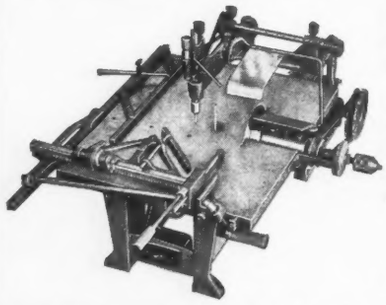
TOLEDO SAW TRIMMER



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3 models from $130.00 to $165.00 F. O. B. Toledo, less Motor. Router and Type High Planer $35.00 extra.

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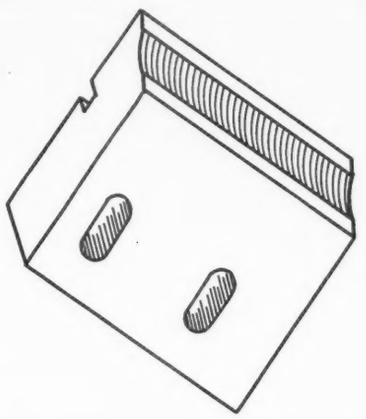
Hollow-Grinding Back Knives

By HARRY MATELING*

THE experience in this office has been that when the back trimming knife on a line-casting machine has become worn about 1/32 in. back from the cutting edge, the accuracy of the knife has been destroyed until such time as the knife has been sharpened again.

Here at the *Sun* plant, we sharpen our back trimming knives by hand by holding the beveled portion of the knife against a grinding wheel. In other words, we



hollow-grind the knives. The tool rest with which most bench grinders are fitted serves to steady the knife while holding it with both hands and passing it alternately to the right and left of the grinding wheel.

After all signs of wear have been removed by the grinding wheel, the knife is lapped by hand on a bench stone until the original angle has been restored for a distance about 1/16 in. back from the cutting edge.

All our back knives are ground and lapped by this method. The hollow-ground clearance under the cutting edge prevents metal trimmings and slivers from packing on what would be the beveled surface of the knife when ground in a fixture.

*Chief Machinist, the Sunpapers, Baltimore, Md.

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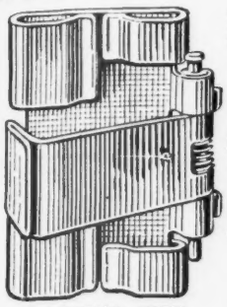

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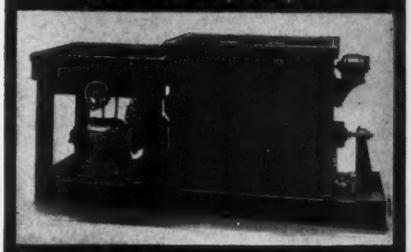

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